ACCESS TO AND USE OF LIBRARY ELECTRONIC RESOURCES AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA

By

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Submitted in fulfilment of the requirements for the degree of Master of Arts in Information Science

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2018

DECLARATION

Student Number: 51859106

I declare that **ACCESS TO AND USE OF LIBRARY ELECTRONIC RESOURCES AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Signed: Oluwaseun Babarotimi Opeyemi …… Date: 27-02-2018

DEDICATION

This dissertation is dedicated to God, for the strength and grace to pull through this study, to my wife and children for their love, understanding and support.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to God for his immeasurable help and assistance during this study. I also want to appreciate all the people God used to encourage and render assistance that enabled me to complete this dissertation.

My gratitude goes to my supervisor, Prof O.B Onyancha for his gentle and fatherly guidance at every stage of this study. I wish to thank every respondent that believed in this study by completing the online (google form) questionnaire sent to their email addresses.

Lastly, I would like to express my gratitude to my wife, Oluwaseun Adekunbi and my children for their immense support and understanding.

ABSTRACT

The aim of this study was to investigate the extent of access to and use of library electronic resources and their implications on remote users at the National Open University of Nigeria. Specific objectives were formulated to: find out the different types of electronic resources available in the NOUN Library; investigate academic staffs' and students' level of awareness of electronic resources available in the NOUN library; explore the various types of electronic resources used by academic staffs and students of NOUN; find out how academic staffs and students access and use electronic resources in NOUN library; analyze the policies that enable access to and use of electronic resources by academic staffs and students at NOUN; find out the perceptions and attitudes of academic staffs and students toward the electronic resources available in the NOUN library; and identify the challenges associated with access to and use of electronic resources by the academic staffs and students of NOUN.

The study adopted a quantitative research approach and survey research method was employed. The study targeted 1,680 population samples of which include 1,513 Students, 140 Academic staffs, and 27 Academic Librarians. Probability (Stratified random and systematic) sampling and nonprobability (purposive) sampling methods were adopted. Two sample frames were used: Students - classified into subgroups (Level) in each selected study centers and Academic staff - classified into subgroups (academic staff/academic librarian). Online (Google form) self-administered closed-ended questionnaire was sent to participants' email. Data collected were analyzed through Statistical Package for the Social Sciences (SPSS).

This finding revealed that electronic journals and electronic books are readily available in the NOUN library. Academic staff most likely, interact with the library staff or visit the library to be aware of library electronic resources, however, the students struggled to be aware through personal efforts. NOUN library creates awareness through the email and notice boards. The academic staff and students access and use the library electronic resources for various multidimensional purposes, however, there is a low patronage of these electronic resources by academic staff and students as less than 40% of academic staff and students access and use the library electronic resources. Electricity outage, low internet connectivity speed and high cost of access to internet were presented as challenges encountered while accessing and using electronic resources. Recommendations: the library management should develop awareness programmes that is appropriate for an ODL university community through the use of modern communication tools, and emphasy should be on the use of electronic resources in the university curriculum.

KEY TERMS:

Electronic resources, National Open University of Nigeria, Remote Access, Awareness, Accessibility to library resources, user perceptions, user attitudes, Library policies, information and communication technologies (ICTs), Library access tools, Academic Librarian, Academic Staff, University Students, Social media, Websites, Library Orientation, Academic Library, Remote users, E-Books, E-Journals, Library users, NOUN.

ACRONYMS AND ABBREVIATIONS

AACR	Anglo-American Cataloguing Rules
Approx.	Approximate
CD-ROM	Compact Disc Read Only Memory
COL	Commonwealth of Learning
EIS	Electronic Information Sources
E-Resources	Electronic Resources
GSM	Global System for Mobile
HR	Human Resource
ICT	Information and Communication Technology
IT	Information Technology
NE	North East
NC	North Central
NGO	Non-governmental Organization
NOU	National Open University
NOUN	National Open University of Nigeria
NW	North West
ODL	Open and Distance Learning
ODLIS	Online Dictionary for Library and Information Science
RETRIDAL	Regional Training and Research Institute for Open and Distance Learning
SE	South East
SIWES	Student Industrial Work Experience
SS	South South
SW	South West
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISA	University of South Africa

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

1.1 Introduction

Over the years, librarians have exploited emerging technologies to offer new services to library patrons, as libraries continuously play the important role as information dissemination entities where students, teachers, and research groups have access to and explore available electronic resources (Lamont 1999:390; Vassiliou & Rowley 2008:355; Thanuskodi 2011:36). The society has also witnessed a tremendous change in the way tasks are accomplished, libraries are reducing in size as stocks of the volume of printed documents shrinks and electronic resources gradually replace physical monographs due to technological advancements (Bhatia 2011:408; Natarajan & Revathi 2012:61).

An electronic resource represents data and/or encoded computer programs that read and process data into readable formats with the aid of peripheral devices directly or remotely connected to the computer (Reitz's 2013). According to Dadzie (2005:290); Natarajan, Ravi & Ravichandran (2012:48), electronic resources are electronic representation of information with links that can be conveniently used to search for other or related information regardless the time and location using various search techniques. Electronic resources are compilations of subject or field databases which include academic journal articles, books, magazine articles, newspaper articles and reference materials such as encyclopedia, thesaurus, and dictionary. These databases are hosted by different database providers who specialize in specific or multiple disciplines.

Owolabi & Ajiboye (2012:167) and Ukpebor (2012:93) state that library users have access to relevant and current information due to the availability of electronic resources in numerous subject fields, and this has made it possible for the academics to execute their daily tasks. Its flexibility in the delivery of teaching and learning materials to distant learners coupled with information retrieval speed has improved the quality of knowledge acquisition and broaden the learning scope especially in many distant learning tertiary institutions in Nigeria and Africa. Thus, making electronic resources an inestimable asset to education. With the aid of the internet, regularly updated and current information that might be out of reach to distant learners are remotely accessed. Simpson, Coghill & Greenstein (2005:28) assert that partnership between librarians and partners, healthy feedbacks from library users would translate to rich and wholesome electronic resources collections. And libraries are committed to improving service delivery and meeting the demand for uninterrupted, instantaneous, integrated access to

online information (Pilgrim & Dolabaille 2011:98). Ekwelem, Okafor & According to Ukwoma (2009:95) and Adegbore (2011:71), electronic resources demand and usage by library users to obtain information and for academic work is on the increase, indicating an increase in its acceptance. Educational barriers such as the inability to get needed books or journals are broken as distant learners are given access to a wider range of educational materials anywhere in the world via electronic educational databases using internet connection. According to Bhatia (2011:408), library electronic resources allow users to have easy and prompt access to information.

1.1.1 The role of Information and Communication Technology (ICT) in e-resources utilization

Conventional libraries have automated and improved their services through ICT. The extensive use of the internet and the web has changed information generation, storage and retrieval methods (Porumbeanu 2009:152; Ahmed 2013:290), and increased the demand for electronic resources by distant learning institutions library patrons. Distance and time barriers, regardless of students' location within the country, have been surmounted (Mackay 2001:26).

Accessing instructional materials remotely and the provision of virtual services such as reference assistance, information network connections and interlibrary loans through the internet may result in proper intellectual development and proficiency in some academic disciplines without physically contacting the librarian assigned to these tasks (Rezaei 2006:396; Dadzie 2005:290). Electronic resources can be remotely accessed through the desktop computers and different mobile devices like mobile phones, palmtops, laptops, notebooks, i-pads and other miniature devices. A learning resource center and the library can host a mobile electronic resource library bringing education to the remotest part of the world where knowledge is sought. Remote user benefits from the flexibility of electronic resources because remote access allows patrons to access the majority of library content from their practice sites, offices, laboratories, or homes (Stone, Soltis, & Schott 2010:1). Internet connectivity, a medium through which a link can be established between devices (computers, laptops etc.) and the host electronic resources database servers (large capacity and high-speed computers) is essential in remote access. Most Global System for Mobile (GSM) service providers offers this service, making internet connection in remote places possible. Electronic information and the tools used to access these information have increased enormously having a great impact on academics' information behaviour (Olle´ & Borrego 2010:46). Computers

and telecommunications technologies have made it possible for library patrons to have access to electronic resources within the school environment and remotely. Remote access offers easy access to multiple resources subscribed by the library through its interface, making simpler the task of the users. Baikady, Jessy & Shivananda (2014:486) states that remote or off-campus access to and use of electronic resources among user community wherever they reside, which is one of the objectives of a modern library, is the priority of the library.

1.2 Contextual Setting

National Open University library runs a standard hybrid system that offers rich academic electronic databases and monographs available to students and staffs for teaching, studying and research purposes. The Library has well-educated library staffs spread across the country; rendering quality services to patrons and making the library experience a worthwhile one. On the 22nd of July 1983, president Alhaji Shehu Shagari established National Open University of Nigeria (NOUN) by an Act as a pioneer institution running a single-mode (distant learning) education that was meant to be the foundation of modern-day open and distance education in Nigeria (Federal Ministry of Education Blueprint 2002:85).

On the 25th of April 1984, the Nigerian government under a military regime of General Mohammed Buhari suspended the operations of the university. According to Federal Ministry of Education Blueprint 2002:25), the university was suspended by the General, citing insufficient funds as one of the major reason for the suspension. He forcefully took over the democratic government of Alhaji Shehu Shagari barely a year after the establishment NOUN. President Olusegun Obasanjo on the 27th of March 2002 approved the resuscitation of the institution to tackle the country's educational problems which are: lack of access to higher institutions, inequality in educational opportunity, the level of illiteracy and high demand for highly skilled professionals in the labour market. Nwufo (2012:339) states that the education sector of Nigeria is expanding at a geometric rate because of the increased demand for education.

According to Agboola & Ofoegbu (2010:3), Nigeria education has been faced with educational imbalance challenges because education was introduced to regions in Nigeria at different times and attempts such as expansion of access, provision of human/material resources at tertiary education level by different governments to rectify this problem did not yield the expected

result, rather education imbalance gap increased. The enactment of open and distance system of education in Nigeria was based on the following:

- Providing education for all and promoting lifelong learning
- Providing a better alternative to satellite campuses
- Funds management
- Enhanced economics of scale
- Tractability of mode of delivery
- Maximizing the use of human resources
- Qualitative teachers' training programme
- Vocational training, life-long education, and eradication of poverty
- The creation of National awareness
- Reaching the unreached (Federal Ministry of Education blueprint 2002:27-31).

The objectives of open and distance learning (ODL) programme according to the blueprint are:

1. Creating equal opportunities by increasing access to education to ensure fairness;
2. The development of education in rural areas to eradicate poverty;
3. Creating and improving support for life-long learning and education for all;
4. Promoting and establishing technological literacy in Nigeria;
5. Providing structures that can be used for acquiring and disseminating educational resources using modern technology;
6. Creating opportunities for learning and making education, affordable, accessible to all using an appropriate and cost effective medium.; and
7. A reduction in the cost of education (Federal Ministry of Education blueprint 2002:31).

The drive behind the establishment of NOUN was to make both formal and non-formal education accessible to the ever-increasing population of Nigerians seeking to be educated. NOUN has witnessed massive enrolment of students from all the geopolitical zone and different sectors of the economy. NOUN is currently the only single-mode university mandated to run an ODL system of university education in Nigeria. NOUN prepares professionals in various fields through an open and distant learning mode offering certificate, diploma, degree, post-graduate diploma, and postgraduate programmes (NOUN Student's handbook 2008:13).
The University has seven faculties, namely faculty of education, faculty of arts and social sciences, faculty of management sciences, faculty of science and technology, faculty of agricultural sciences, faculty of health sciences and faculty of law. Other academic units

include learning resources center/library, center for lifelong learning and work place training, school of post graduate studies, access and general study center, student industrial work experience (SIWES) and regional training and research institute for open and distance learning (RETRIDAL).

NOUN is collaborating with international development partners like *commonwealth of learning (*COL), united nations educational, scientific and cultural organization (UNESCO), world bank and other distance learning institutions in India, South Africa, Hong Kong, UK, Australia in areas of mutual interest (NOUN General catalog 2012:29) in order to deliver a qualitative and world-class education to Nigerians in respective of status, class or gender.

1.3 Statement of the problem

The library at the National Open University of Nigeria (NOUN) is no exception as far as the justification of the continued funding and existence of libraries, worldwide, are concerned. In Ramesha (2015) finding, 80% of the respondents indicated that libraries are funded by the central government, 15% by state government and 5% through consultancy and project. The majority 87.5% have online access to databases. The library has subscribed to electronic resources; however, very little is known about the accessibility and use of these resources by academic staff, students and any other university community members for whom the resources are meant. There is a lack of evidence of the extent of accessibility and use of these electronic resources. Such evidence is necessary for the continued investment in electronic resources, and for libraries to be accountable to their constituents and funders alike (Miller & Schmidt 2003:203). The following questions must therefore be answered if university management and funding partners are expected to support funding for the procurement and development of electronic resources: who uses these electronic resources? Is the amount of funds expended justified in terms of the ebuse, or a value derived from use? What impact do all these resources have on students and faculty in universities? According to Stone, Soltis, & Schott (2010:1), the modern library faces the challenge of providing adequate and equal access to patrons that engage in online and internet searching for accessing information through the academic library. Access to electronic resource is a problem, particularly for remote users and the demand for remote access are increasing as are technologies to deliver library content. According to Mawindo & Hoskins (2008) finding, restrictions encountered by the academic staff and students through the Internet protocol (IP) address make access outside the university environment impossible. While majority of the respondents prefer to use the print resources

due to inaccessibility and lack of familiarity with library electronic resources. It is imperative to understand remote users and their needs as thoroughly as possible. This is particularly true for students and staff of NOUN who use electronic resources extensively to study at their homes, offices, while in transit.

1.4 Aim of the study

The aim of this study was to investigate the extent of access to and use of library electronic resources and their implications on remote users at the National Open University of Nigeria.

1.4.1 Objectives

To achieve the aim of the study, the following specific objectives were formulated, namely to:

1. find out the different types of electronic resources available in the NOUN Library;
2. investigate academic staffs' and students' level of awareness of electronic resources available in the NOUN library;
3. explore the various types of electronic resources used by academic staffs and students of NOUN;
4. find out how academic staffs and students access and use electronic resources in NOUN library;
5. analyze the policies that enable access to and use of electronic resources by academic staffs and students at NOUN;
6. find out the perceptions and attitudes of academic staffs and students toward the electronic resources available in the NOUN library; and
7. identify the challenges associated with access to and use of electronic resources by the academic staffs and students of NOUN.

1.4.2 Research questions

1. What electronic resources are available in NOUN?
2. Are academic staff and students aware of the electronic resources offered at NOUN?
3. What tools are used by NOUN Library to create awareness?
4. Which electronic resources are used by academic staff and students?
5. How do academic staff and students access electronic resources at NOUN?
6. How often do academic staff and students access these electronic resources available in NOUN?

7. What policies and infrastructure exist in the library to enable the use of electronic resources by academic staff and students?
8. What is the perception of academic staff and students regarding the library's electronic resources?
9. What are the challenges encountered by students and academic staff while accessing and using library electronic resources?

1.5 Significance of the study

Every organization needs adequate, accessible, current and quality information for sustainability and to remain relevant. Libraries at the forefront of technological advancement with various challenges have become channels of information distribution through the Internet, no matter the location and time (Premchand-Mohammed 2011:325).

It is anticipated that the result of this research will inform the improvement of policies on acquisition, administration, management, maintenance and sustenance of electronic resources. The findings of this research can indicate staff and students level of awareness and usage of the e-resources; this may lead to an improved library marketing strategy which could promote e-resources awareness among users and increase the number of students and staff accessing the library electronic resources at NOUN. This may provide opportunities to maximize subscribed electronic resources usage by users and justify the huge capital investment committed annually to the renewal of e-resources subscriptions.

1.6 Literature Review

A literature review was carried out to evaluate previous related research works which served as a framework for the study. The review was done using electronic academic journals articles, conference proceedings, periodicals, eBooks, and textbooks. Related research works on access, use of electronic resources by library patrons were reviewed. This involved step by step classification, sighting, and analysis of documents containing similar research problem and providing insight to the presentation of the study within a logical framework (Gay, Mills & Airasian 2009:80). A review of the subject literature investigated the extent of accessibility to and the nature of electronic resources usage by academic staff, students of open and distant learning universities and understudies the various factors influencing library users' behaviour towards the usage of electronic resources.

A comprehensive literature review is provided in Chapter Two.

1.7 Scope and limitations of the study

Remote access is connecting and gaining access to a distant host computer internal network resources, such as electronic databases that are physically distributed in different locations (Kasacavage 2002:4; Schiller & Welpton 2014:7). This research focused on electronic resources such as online and offline databases, electronic books, journals, reference materials, and periodicals. Special centers such as the prisons were not considered in this research because of restrictions on internet and web usage. Academic staff were also included in this research because by the virtue of their profession are meant to be researchers.

1.8 Research Methodology

This study adopts a quantitative research approach. Research is an organized and formal way of applying scientific techniques while learning about problems using several strategies in collecting and analyzing data (Gay, Mills & Airasian 2009:6). The strategies employed to answer research questions and methods employed in solving a research problem can be referred to as research methodology. Mavodza (2010:18) defines research methodology as the process of creating a scientific way of finding solutions to research problems. This study used the survey research method. Survey research is the collection of data used to answer research questions or test research hypotheses (Gay, Mills & Airasian 2009:9). There are 189,364 active students in NOUN and 2,656 staff (both academic and non-academic) with 70 study centers spread across the geopolitical zones in Nigeria (NOUN Annual Report 2014/2015: 60). Three hundred and seventy (370) are academics, 2,286 are non-academics. The University Library has 80 staff, out of which are 54 Academic Librarians (source: University Library 2016). A pilot test was carried out to determine the extent to which the content instruments were consistent in eliciting the same responses. Twenty (20) participants were selected from a study center other than those used for the study.

The target population for this research include:

1. 44,202 Undergraduate final year students (400 & 500 Level). The level in this context refers to the student's class or a form of academic progress calibration in the university academic system.
2. 80,591 Postgraduate students (PGD, Masters & PhD)
3. 309 Academic staff
4. 54 Academic Librarians

The above-mentioned groups of people were selected because they are expected to make the most use of the electronic resources for acquisition of knowledge, teaching, writing of term papers, continuous assessments, dissertations, research publications, conference and workshop paper presentations. The librarians are also required to double as providers of library services, which include electronic resources support and administration.

The National Open University of Nigeria has 70 study centers in six geopolitical zones of Nigeria. The researcher used stratified sampling and purposive sampling methods to select the centers which are within the six geopolitical zones, so as to arrive at a fair representation of the target population. Stratified sampling and systematic random sampling methods were employed in the selection of research participants for the study. Students' database list was obtained from NOUN ICT students' registration database unit. The list comprises of the undergraduate final year students, postgraduate diploma students, Masters and Ph.D. students. The academic staff list was obtained from each school's webpage on the university website. The academic librarian list was obtained from the library headquarters, where the researcher works. The researcher adopted stratified random sampling, systematic sampling, and purposive sampling methods. The researcher is of the view that the use of these techniques will produce a fair and reliable representation of the target population.
The research participants were the academic staff, librarians, undergraduate final year (400 & 500 Level) students, and post graduate (PGD, Masters & PhD) students scientifically selected from the six geopolitical zones of Nigeria.

This study uses the self-administered questionnaire as a tool for data collection. The respondents were provided with Likert scale questions to make appropriate choices. Google form was used to administer questionnaire sent to participants' email gotten from NOUN ICT Student registration unit and the academic unit. The researcher is of the opinion that collection of data through the use of questionnaires from students would assist in obtaining all the necessary information needed to investigate academic staff and students' level of accessibility to, nature and of usage of NOUN library electronic resources. Respondents consent in conformity with UNISA research ethics policy was sought in a letter of introduction preceding the questionnaires.

1.9 Definitions of terms

Defining terms is an act of providing a brief but detailed explanation of concept within a research work to create a clear view of the context in which they are used so that the subject matter can be better understood. Phenomenon and processes in a field of study are defined, and both the knowledgeable and the unknowledgeable are carried along appropriately.

1.9.1 Remote Access

Remote implies far distance in space. Access means to approach, enter, exit, and converse with (American Heritage Dictionary of the English Language 2015). Therefore, remote access is the ability to gain access from a far distance in space. People can gain access to a computer, database system, network from a remote distance via the internet if they possess the required access rights.

1.9.2 Library

The library is an essential part of the educational institution that renders a wide range of academic services to the academic community of its parent body that provides students curriculum support (Kumar 2015:169). It is a physical or virtual store house of educational and recreational materials.

1.9.3 Electronic Resources

Electronic resources are compilations of subject or field databases which include academic journal articles, books, magazine articles, newspaper articles and reference materials such as encyclopedia, thesaurus, and dictionary. These databases are hosted by different organizations, some specializing in specific disciplines while others, multiple disciplines and are regularly updated. Electronic resources make easily available current and up-to-date information that are far from the reach of a distant learner (Thanuskodi 2011:438).

1.10 Organization of the dissertation

A research carried out by a researcher irrespective of methodology in use involves research topic identification; statement of problem; literature review; participants, tests or other measuring instruments selection; data collection, analysis and interpretation; description of procedures used, time schedule, (Gay, Mills & Airasian 2009:14; Fraenkel, Wallen & Hyun 2012:19).

The structure of this dissertation was done according to recognized and accepted research procedures which is similar to the above-stated procedures.

- Chapter One starts with an introduction which includes the contextual setting, statement of the problem, the purpose of the study, objectives, research questions, delimitations, the significance of study and research methodology.
- Chapter Two is a review of existing literature on previous similar research on access to and use of the library electronic resources.
- Chapter Three deals with the research methodology.
- Chapter Four entails the presentation of the findings
- Chapter five provides the discussions of the findings.
- Chapter Six covers the summary, conclusions, and recommendations arising from the research, as well as highlighting implications for further research.

1.11 Work plan

Activity	Expected Duration	Submission of Chapters
Chapter One: Introduction	12 months	2 Weeks
Chapter Two: Review of existing literature on previous similar research on access to and use of the library electronic resources	8 weeks	2 weeks
Chapter Three: Development and distribution of questionnaires	12 weeks	Weekly
Chapter Four: Data analysis, synthesis of findings	8 weeks	Weekly
Chapter Five: summary, conclusion, and recommendations	4 weeks	Weekly

Table 1.1: Work plan schedule

1.12 Chapter Summary

This chapter highlighted the role of the 21st-century library with emerging technologies offering new services to library users. The concept of electronic resources and the challenges militating against the use of these resources were discussed. The significant changes brought by information and communication technology, such as information generation, storage, and access. The advent of the internet has made accessing instructional materials remotely possible. New hi-tech devices are also available to make access via the internet extremely flexible. However, some major constraints in the acquisition of electronic databases were highlighted, which include funding and the breakdown or unavailability of basic infrastructures.

The chapter seeks to understand the concepts of remote access, electronic resources, library, and NOUN as well as make a case for NOUN library in the acquisition of electronic resources. The research problem was formulated along with the aim and objectives of the research. Questions adopted by the study were drawn from specific objectives. Subsequently, the significance of the study, literature review and scope and limitations of the study are provided. A concise synopsis of the research design, methodology and data collection methods was presented. The definitions of terms that are used throughout the study are also provided. The organization of dissertation and work plan is presented at the end of this Chapter. The next Chapter deals with Literature Review.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature in order to understudy similar research work carried out by various researchers, identify and analyze various issues discussed. The review is drawn from the objectives of the study, which in turn focused on the type of electronic resources (e-resources) available for use at NOUN, users' awareness of e-resources, the e-resources used by academic staff and students. In addition, how academic staff and students access e-resources, the frequency of accessing these e-resources by academic staff and students, the policies and infrastructure that exist in the library to enable the use of e-resources by academic staff and students, the perception of academic staff and students regarding the library's e-resources, and the difficulties encountered by academic staff and students while accessing and using library e-resources.

2.1.1 Why Literature Review?

A literature review is a step by step classification, sighting, and analysis of documents containing similar research problem, providing insight to the presentation of the study within a logical framework (Gay, Mills & Airasian 2009:80). The review of the literature helps in discovering both successful and unsuccessful research strategies and data collection approaches, this helps in avoiding mistakes and acquiring experience. Lyons & Doueck (2010:55), state that literature review should contain structured arguments that clearly articulate a research case while reporting relevant literature. In addition, research work can be properly placed into a historical, theoretical and methodological context that reveals its originality, provides a rationale and justification for the research, shows the importance of research questions and evaluate sources most relevant to the study. Though the review of literature is very important in research, the quality of literature review determines the success and quality of academic work carried out; methods and ways of conducting a review of the literature are generally argued (Boell & Cecez-Kecmanovic 2014:257). Levy & Ellis (2006:183) postulated that through literature review researchers gain more understanding on the previous and current school of thoughts in order to substantiate the theoretical basis and the research problem for a proposed study. Literature review contributes to knowledge by discussing logical research questions, goals and approaches, and aids the development of theory regardless of the challenges encountered during data collections from people and

organizations (Smallbone & Quinton 2011:1). However, Zorn & Campbell (2006:174) highlighted some pitfalls in the literature review, such as, non-systematic or incomprehensive search, focusing on wrong sources of information, which could lead to a narrow, scattered and outdated literature review. A literature review objectively reports most recent facts on a topic based on previous publications and research studies in order to validate assumptions, give insight into other studies findings and suggest a more convincing research outcome (Green, Johnson, & Adams 2006:102). Khoo, Na, & Jaidka (2011:255) posit that review of literature is a synopsis of relevant studies that provide support, reveal gaps and explain how a current research will fill these gaps using the required methodology.

2.2 Electronic resources: an overview

Electronic resources (e-resources) are multi-platform, synchronous/asynchronous information-supply instruments that are accessible through information and communication technology (ICT) contrivances by multiple users at different locations (Swain& Panda 2009:76). An electronic resource represents data and/or encoded computer programs that read and process data into readable formats with the aid of peripheral devices directly or remotely connected to the computer (Reitz's 2004). Electronic resources are invaluable research tools, a subset of academic libraries and a significant academic resource used in learning, teaching, and research activities and complementing print-based resources by providing access to information to distant learners (Dadzie 2005:290; Liyi, Pinghao, Qihua & Lijun 2011:829). Lee & Boyle (2004:5) and Natarajan, Ravi, & Ravichandran (2012:48) opined that an electronic resource is an organized collection of digital publications; a numerical, text-based and graphical electronic product that represent the electronic version of the information. Different organizations specializing in either a single discipline or multiple disciplines host and regularly update these electronic resources.

Hawthorne (2008:1) highlighted the developmental stages of electronic resources that started in the mid-1960s as follows, machine-readable catalog (MARC); online public access catalog (OPAC); bibliographic databases; and CD-ROM databases. The Online/web-based databases ushered in electronic serials/books of the 21st century. Due to ease of/quick information retrieval features of electronic resources, its demand has increased exponentially making academic libraries/information centers strive to upgrade their status by providing online access to these electronic resources. According to Swain & Panda (2009:74) and Thomas, Satpathi & Satpathi (2010:595) gradually, the libraries' role metamorphosed from information storehouses

to information institutions, then to centers of knowledge and culminating in becoming guides/facilitators to information access. This evolution of academic libraries/information centers through ICT has transformed library services procedures and structures, making electronic resources easily accessible and available (Okon Ani, Jacob & Nkoyo 2005:701; Prabha 2007:4; Deng 2010:88). According to Swain & Panda (2009:75), library print resources stock has drastically reduced due to increase in ICT devices, electronic databases, modern book technologies. These developments include digitalization/multimedia technology, creation of metadata standards/copyright laws, institutional repositories, e-publishing/e-journals, static/dynamic web page creation/management (Thomas, Satpathi & Satpathi 2010:596; Ahmed 2013:290).

Electronic resources accommodate large information with minimal use of space, can be accessed and shared among users regardless of time and location, and have the capacity to greatly expand its collections (Liyi, Pinghao, Qihua & Lijun 2011:829). Access to up to date information that is multi-linked with other robust related information content is made possible through electronic resources advance search techniques (Dadzie 2005:290). According to Chung-Yen & Jiann-Cherng (2014:85), e-resource retrieval cost is not expensive and information retrieval is very fast, and a print resource cannot match up with these unique attributes. Students can access relevant information on the subject of their interest and make good use of it in the course of their study (Oyewo & Bello 2014:228). John, Sanjay, & Shri (2013:301) emphasized the ease of use of electronic resources and its significant research value to the researchers but added that they are complicated for the library administrators to catalog, manage and administer. According to Prakashe & Tayade (2015:217), challenges associated with the management of electronic resources include monitoring changing access circumstances, license terms considerations and conditions attached to subscription, renewal, and authentication processes, resource sharing limitations, usage and data collection.

2.3 Types of Electronic Resources

The world has witnessed huge developments associated with modern day technologies that are now essential tools in the retrieval of information via electronic resources which are fast becoming academic libraries major collections (Thanuskodi 2011:23). However, choosing electronic resources should entail proper development of collection policies, an organization of relevant collections putting into consideration acquisition cost and adequate knowledge of user needs (Gandhi 2003:146). Types of electronic resources as categorized in the table below:

Electronic Resources	Description
Electronic Book	Book in electronic format such as eReader, Adobe PDF, Microsoft Reader.
Electronic Journal	A periodical scholarly publication in electronic format
Electronic Newspaper	An online version of day-to-day publication of news and events
Electronic Magazine	The electronic format of periodically published magazine
Electronic Thesis	Electronic format of scholars' projects
Electronic Clipping	Electronic presentation of different clips of articles from published materials
Electronic Patents	An electronic version of documented rights given by the government to utilize a product for a specific period.
Electronic Standards	An electronic version of written rules guiding the production of goods and services.
Indexing and Abstracting Databases	Electronic reference services that provide bibliographic information about scientific/non-scientific journals and abstracts of the articles
Full-text Databases	An organized electronic collection of complete texts of published materials such as books, journals or another kind of textual documents.
Reference Database	These include electronic Dictionaries, Encyclopedias, Maps etc.
Statistical Database	Organized electronic collections of numerical data for statistical analysis.
Image Collection	Organized collections of electronic images
Multimedia Products	Organized collections of audio-visual materials

Table 2.1: Types of Electronic resources (Anand 2014)

Electronic resources can be free or fee-based access. A free access electronic resource has an open license and available to the public at no cost. A fee-based access electronic resource has

a closed license that comes with a periodic payment of subscription fee. Electronic resources are available in a different format: the full-text, partial full-text, table of contents and abstracts.

2.4 Users' awareness of electronic resources

Electronic resources help in expediting access to information and facilitate learning/research activities carried out by library users (Bhatia 2011:480). Rapple & Lambert (2010:163) lament that many valuable collections of academic electronic resources are under-utilized simply because potential users are unaware of their existence. Online public access catalog (OPAC) has been integrated into libraries for easy access to e-databases that house numerous educational materials to assist students and academic staff by creating awareness on the availability of e-journals, e-books and electronic reference materials which can be accessed remotely (Gandhi 2003:140). According to Tripathi & Jeevan (2008:616), distance learners do not take advantage of available electronic resources because of lack of awareness of e-library services in libraries. Leong (2009:12) suggested that using students contact, rendering awareness program through the internet and physical delivery of information to students could help students in need of help.

Several studies, (Shuling (2007:78); Kaur & Verma (2009:70); Issa, Blessing & Daura (2009:4); Madhusudhan (2010:495); Kumar & Ansari (2011:272); Natarajan & Revathi (2011:64); Egberongbe (2011:4); Okiki (2012:5); Dhanavandan, Esmail & Nagarajan (2012:4); Hadagali, Kumbar, Nelogal & Bachalapur (2012:191); Santhi & Radhakrishnan (2012:286); Zafar(2013:34); Kwafoa, Imoro & Afful-Arthur (2014:7); Bansal (2015:145); Gupta & Sharma (2015:3); Dadzie & Walt (2015:62) on whether or not students and staff were aware of electronic resources, discovered that as much as over 60% of respondents were aware of available electronic resources. For example, Shuling (2007:78) found out that 67.3% of postgraduates were aware of available electronic resources. This was due to their quest for information and eagerness to partake in training class on the utilization of electronic resources. Shuling, however, noted that undergraduate students were more concerned with class work and occasionally consult electronic resources for their studies and the teachers' level of awareness was below expectation. Kaur & Verma (2009:70) found that 70% of postgraduate, 100% research scholars and 96.3% faculty members were aware of electronic resources, except for the undergraduate students with very low awareness level. Issa, Blessing & Daura (2009:4) found that 95.83% respondents were aware of library electronic resources, 34.72% of those

aware use the library electronic resources while 61.11% do not utilize library electronic resources.

Madhusudhan (2010:495) & Kumar & Ansari (2011:272) found that 100% of respondents were aware of available electronic resources in the library. This happened because of effective library orientation. Organizing effective and efficient orientation classes and training programme to create awareness increases the popularity of electronic resources among library users. Comparing the level of awareness among gender distribution, Natarajan & Revathi (2011:64) found that 79.13% of male and 73.23% of female respondents know that electronic resources are available in the library. The result showed that male respondents were more aware than the female. Egberongbe (2011:4) found that 71.4%lecturers and 78.6% research scholars were aware of electronic resources. Dhanavandan, Esmail & Nagarajan (2012:4) found that out of 91 respondents 82.4% were of available electronic resources in the library. Hadagali, Kumbar, Nelogal & Bachalapur (2012:191) found that 61.70% of respondents were aware of available electronic resources in their university libraries. Though it was noted that majority got to know about electronic resources through trial and error while others knew through friends, teachers and library staff. Santhi & Radhakrishnan (2012:286) found that 95.2% of research scholars were aware of electronic resources. Over 60% were aware of electronic books, journals, magazines, and databases but almost all the respondents were unaware of the existence of open access electronic resources. Fasola (2013:89) found that over 70% of research participants were aware of electronic resources. However, they are more knowledgeable in the utilization of search engines for information retrieval. According to Zafar (2013:34), majority of research participants have knowledge of the existence of electronic resources via library brochures, classmates, library website, teachers and library staff. Kwafoa, Imoro & Afful-Arthur (2014:7) found that out of the 100 respondents, 92% were aware of online academic databases but patronage was low. It is possible to be aware of electronic resources and not utilize them, hence the need for a regular result-oriented sensitization programmes of available library electronic resources. Bansal (2015:145) found that 100% of respondents were aware offline/online databases, electronic journals, and electronic books; 99.1%were aware of electronic reference sources, 96.4% - digital libraries, 94.6% - blogs, 91.1% - information/subject gateways, 89.3% - wikis, 83.9% - institutional/disciplinary repositories. Gupta & Sharma (2015:3) found that over 60% of research participants know about the existence of electronic resources in the library.

These studies concluded that majority of research participants know about electronic resources in the library. To raise the level of awareness, the studies recommended training, orientation, workshops and seminars for staff and students. In addition, Librarians should improve on interpersonal communication skills and human relations. University libraries should develop effective and efficient marketing strategies do more advocacies, using emails and library websites to promote electronic resources and work on building new collections of electronic resources. This could be effective through using cross-institutional agreement to reduce cost. Many libraries are yet to record 100% awareness from the research findings above; the challenge is how to get this done.

However, some studies have indicated that respondents were not aware. These include Kaur & Verma (2009:69), Angello (2010:12), Okello-Obura (2011:54), Kumar & Singh (2011:40), Okiki (2012:5), Damilola (2013:7), Dadzie & Walt (2015:62). In most of the latter studies, some of the highlights are as follows: Kaur & Verma (2009:69) found that over 60% of research participants were unaware of electronic resources/services provided by the library. Angello (2010:12) found that over 70% of the livestock researchers in three livestock research institutes in Tanzania were not aware of electronic resources, though they claim to have skills in electronic information searching. Okello-Obura (2011:54) found that 76% of Library and Information Science students and 88% of Education were unaware of most of the electronic resources available in the library. Kumar & Singh (2011:45) & Okiki (2012:5) found that over 50% of research participants were unaware of electronic resources available in the library due to lack of orientation programmes. Damilola (2013:7) found that 56.8% of distant learners were unaware of electronic resources in the library; as a result, there was a low level of electronic resources utilization. Dadzie & Walt (2015:62) found that more than 60% of respondents were unaware of available electronic resources, institutional repositories and library digital tools such as online public access catalog (OPAC). Dadzie & Walt observed that faculties did not place much value on digital resources, which led to a very low level of awareness.

These studies concluded that majority of research participants were unaware of electronic resources available in the libraries. They recommended that university libraries should create more awareness on electronic resources during the orientation programme for new students and staff. Regular training on all aspects of electronic resources should be organized for all library users. Libraries information access systems should be more user-friendly to students and staff, and guides to electronic resources included in the university curriculum. From the studies

highlighted above, there is the need to investigate why library users were not aware of electronic resources subscribed by libraries, how 100% awareness can this be achieved, and how best can the effectiveness of the awareness technique be measured.

2.5 Use of electronic resources by academics and students

According to Erich (2013), the value of any type of library does not just depend on how rich and wide its collections are, but also depend on how its resources are professionally used. There has been an increase in electronic resources usage by research scholars who have become addicted to electronic resources and have adopted these electronic resources as common tools in their academic activities (Amjad, Ahmed & Naeem, 2013:317). Modern day library users are encouraged to make use of electronic resources as physical library collections are going electronic and stored in virtual spaces (Kennedy 2013:42) and ICT is helping libraries to provide electronic resources to library users in an efficient and effective manner (Thanuskodi 2011:437). Okiki 2012:1 stated that almost all academic materials are available and accessible on the internet improving the value and usage of information resources over time.

The studies carried out by different researchers indicated that over 60% of respondents use electronic resources such as internet/the web, the databases and electronic journals. Egberongbe (2011), Okiki (2012), Peiris, & Peiris (2012), Amjad, Ahmed & Naeem, (2013) and Bansal (2015) considered the frequency of electronic resources usage and reported that majority of the research participants frequently used electronic journals and online databases. According to Ge (2010), Okello-Obura & Ikoja-Odongo (2010), Amjad, Ahmed & Naeem, (2013), easy access to relevant and current information, availability in electronic format, and the usability of the electronic resources resulting to improved academic performance were reasons why respondents use electronic resources regularly. Okiki (2012) stated that the authenticity and reliability of electronic resource are key factors that affect the positive usage of electronic resources. Egberongbe (2011) highlighted the richness of electronic resource content as one of the reasons for the high usage of electronic resources by respondents.

Library users make use of electronic resources for purposes such as, according to Thanuskodi (2011), Ranganathan (2011), & Obasuyi (2012), research, publication of papers and academic work. Deng (2009), Peiris, & Peiris (2012), stated that respondents used electronic resources for writing reports, completing assignments, and to help in decision-making. Oduwole & Oyewunmi (2010) reported that medical doctors used electronic resources for clinical decision-

making. Tyagi (2011) and Okiki (2012) stated that electronic resources were used for thesis/projects, collection of study materials, paper writing for seminars, conference, and workshops.

The source of electronic resources could be either an open access source or a subscription-based source. Thanuskodi (2011), Qasim (2015) reported that respondents used electronic resources that are freely available on the internet, and paid for by the library. Egberongbe (2011), Bhatia (2011) reported that majority of lecturers and scholars obtained required information from electronic journals and search engines.

Individual preferences, recommendations, and popularity of a resource usually determine the type of electronic resources used. According to Sharma, Singh & Sharma (2010), Egberongbe (2011), Okiki (2012), Ahmed (2013), Gupta & Sharma (2015) majority of respondents used electronic journals. Swain (2010), Bhatia (2011) found that a large number of research participants used the electronic book. Okello-Obura & Ikoja-Odongo (2010) found that a lot of research participants used electronic thesis/dissertation. Thanuskodi (2011) found that a very large number research participant used open access resources. Deng (2009) found that majority of respondents used the library catalog.

On the frequency of usage, Thanuskodi (2011), Okiki (2012), Peiris, & Peiris (2012) reported that majority of the respondent used electronic resources daily; Ranganathan (2011) reported once a week; Deng (2009) reported twice a week; Oduwole & Oyewumi (2010) reported once in two weeks.

However, Bhatia (2011:482), Ranganathan (2011:51) and Dadzie & Walt (2015) reported that less than 40% of respondents use the library electronic resources. Bhatia (2011) identified limited access to computer as a factor responsible for poor usage of electronic resources despite the willingness of respondents to learn more about using the internet and electronic resources. Ranganathan (2011) identified lack of hardware, software, and training, information on electronic resources, operating funds, and time as problems hindering the use of electronic resources. Dadzie & Walt (2015) reported that faculty is not that interested in the usage of electronic resources, which has resulted in its poor use. Tyagi (2011) noted that less than 30% of undergraduate student used electronic resources because they do not know it exist. Deng (2009) reported that library electronic resources collections have rapidly grown and various

strategies developed for their effective and efficient use, yet they are underutilized. Dulle (2015) reported that developing countries have a very poor usage statistic of electronic resources, though the availability of these resources has greatly improved. Gakibayo, Ikoja-Odongo & Okello-Obura (2013) reported that electronic resources usage is not encouraging in universities despite library's subscription to a substantial number of online databases. They attributed these to ignorance of the relevance and value of electronic resources to academic studies.

These studies concluded that perceptions of availability and usability, insufficient infrastructure, inconsistent subscription to relevant electronic resources are factors responsible for the inadequate use. Though users browse the internet to obtain information, the level of use is still low when compared to the number of electronic resources available in university libraries. Only a few of them could search and retrieve relevant information from electronic resources.

They recommended that academic libraries should focus more on the integration of ICT and the conventional library services to promote electronic resources usage. Faculty members should publicize and support the use of electronic resources by providing references, coursework, and assignments that will make library patrons use subscribed library electronic resources. The library should promote its resources through announcements/advertisements of old and new acquisitions, and organize awareness, training programmes and seminars. Full-text e-journal, databases, and books should be available to encourage greater use of electronic resources.

2.6 Accessibility of electronic resources

Technology has revolutionized conventional libraries into information centers with both physical and electronic holdings (Manorama & Jeevan 2013:134). Both the developed and developing countries would be lagging in development if they lack access to information that can be used for scientific research, learning and teaching obtained from electronic resources (Obasuyi 2012:55). Researchers' productivity is dependent on access to available electronic resources, which is an input in the research process; it is only justifiable to blame researchers' low research productivity if they have access to timely and relevant information resources (Dulle 2015:45). Academic libraries need to provide multiple resources to students and meaningful ways to access the stock of its resources (Adrianna 2007:821, Baikady, Jessy &

Shivananda2014:486). Such that people can comfortably access information, any time of the day from distant locations away from the physical library regardless of barriers such as finances or distance (Dadzie 2005:290). According to Deng (2009:92), how and where to access information resources will help libraries to develop policies and technological infrastructures that will be needed to provide quality library services.

The following studies conducted by Mawindo & Hoskins (2008:101), Deng (2009:92), Okello-Obura & Ikoja-Odongo (2010:5-11), Bhatia (2011:482), Peris & Peris (2012:50), Bansal (2015:145-147), Dadzie & Walt (2015:62) focused on how respondents accessed library electronic resources.

Mawindo & Hoskins (2008:101) found that respondents accessed electronic resources through search engines, departmental and library web page. Bhatia (2011:482) found that respondents accessed electronic resources through universities and institutions websites, and OPAC (Online Public Access Catalog). Peris & Peris (2012:50) found that respondents accessed electronic resources through an in-house library database, a database stored in compact discs, electronic databases, and electronic mail. Various investigations about the location of access revealed that library users use varying point of access depending on the need for information.

Okello-Obura & Ikoja-Odongo (2010:5-11), Ahmed (2013), Bansal (2015:145-147), Dadzie & Walt (2015:62) found that respondents accessed electronic resources in the library, on campus, from several distant locations such as, at home, at workplace, and at internet café, but did not look at the mobile access to electronic resources which this study seeks to incorporate.

Hadagali, Kumbar, Nelogal & Bachalapur (2012) investigated the purpose of accessing electronic resources and reported that respondents search bibliographical information, access full-text articles, browse the table of content and abstract. Peris & Peris (2012) reported the frequency of access by respondents as daily, weekly, fortnightly and monthly.

Deng (2009) reported that some respondents reported that they do not access electronic resources because they do not know they exist, they do not know how to use them, while others stated that it is time wasting and are inaccessible.

These studies concluded that the acquisition of inter-connected computers would improve access to electronic resources; universities should invest in them. Future libraries will be providing more of access to electronic resources and its effective use will justify the budgets expended on electronic resources subscription. Many student access electronic resources for different purposes because of its perceived usefulness in solving their problems and meeting their needs.

They recommended that university management should provide adequate facilities/infrastructures that will facilitate users' access to electronic resources and more research conducted to explore new trends and emerging patterns of electronic resources usage. Library management should strategically plan how to develop a better relationship with patrons and formulate policies on acquisition and preservation of these resources so that there will be a sustainable electronic resources subscription. University libraries should do more advocacies to increase the patronage of digital resources. University librarians should request for slots for brief interactions during orientation sessions of new faculty members as well as new heads of departments. Additionally, university librarians could review the role of subject librarians assigned to departments, faculties or colleges and work with departmental heads to seek periods for presentations to faculty on the available digital resources and their usefulness in teaching and for career enhancement.

2.7 Policies and infrastructure that enable students and academics to use electronic resources

Library as a professional institution helps in supporting its patrons to gain access quickly and efficiently to any type of information from its rich and robust diversify collections of resources (Erich 2013:76). The elements that ensure electronic resources usage, such as, technology, cost, management, training, content, and information are building blocks to effective and efficient policy formulation. Infrastructure investments, electronic resources acquisition procedures, copyright and licensing issues, user's request for an electronic resource, strategic training for library users and librarians are ways of ensuring efficient access and use of academic library electronic resources. Library management should establish strategic planning team to formulate policies that will knit the library and patrons closely together (Peris & Peris 2012). According to Erich (2013:78), when proper policies on acquisition, access, electronic resources promotion, decision making, fundraising and communication are efficiently and effectively

implemented, it will negate the numerous challenges of poor access to and usage of library service, recurrent demoralization of library personnel and the marginalization of the library.

Hopkins & Summers-Ables (2012:76) stated that creating change to library policy and practice based on electronic resource usage statistics will be integral to the success of libraries in the future; one way that libraries can utilize electronic resource statistics is to compare the curricula and degrees offered against electronic resource usage, that is:

1. A resource may not exhibit medium or high usage but could be extremely valuable to a niche educational component in the university.
2. Alternatively, it could mean that the electronic resource does not meet the needs of patrons.
3. It could also indicate that library outreach and education are needed to promote use and awareness.

Gakibayo, Ikoja-Odongo & Okello-Obura (2013:16) stated that information literacy programme should be integrated into university curriculum so that student can acquire important skills that would make them relevant in today's information and communication technology age. Ozoemelem (2009) & Egberongbe (2011) stated that information technology literacy programme with practical courses should also be inculcated into university's curriculum for students and staff. According to Gakibayo & Okello-Obura, (2013) and Oyedapo & Ojo (2013:13), university management in collaboration with the library should equip the library with competent personnel and modern networked computer systems with high-speed internet access. They should establish computer laboratories in faculties regularly organize training, seminar and workshops, and promote the usage of electronic resources through social media and electronic mail text messages.

Obasuyi (2013:54) and Oyewo & Bello (2014:5) found that awareness, computer and Internet literacy skills influence utilization of electronic resources and recommended that libraries should provide electronic resources that are relevant to their users' needs and encourage them to use it; faculty members should improve on their level of competence by constantly using the electronic resources. Garg (2014:84), Kwafoa, Imoro & Afful-Arthur (2014) recommended that the university library professionals should regularly organize orientation programme to increase electronic resources utilization and improve information searching skills. The number of online databases in each discipline need to the increased and users denied access to

unauthorized and unethical sites. Hadagali, Kumbar, Nelogal & Bachalapur (2012) stated that appropriate use of grants for the procurement of modern technologies will enhance the development of information services in academic libraries. According to Tahir, Mahmood & Shafique (2010), electronic resources pattern of use should change as technology changes in order to formulate policies that will improve utilization of electronic resources. The development of collection development policies reflecting the varied usage pattern would be highly instrumental in establishing an excellent study/research culture among library patrons. The involvement of library professionals in the design of library web pages should be encouraged (Warraich & Ameen 2008). While universities should consider implementing integrated library system in automating library operations (Ahmed 2014). University management needs to consider the development of an effective feedback mechanism for prompt and effective solutions (Qasim 2015).

2.8 Perceptions and attitudes of academic staff and students towards electronic resources

The perception of the academics toward the use of electronic resources had tremendously improve due to the exponential increase in electronic information and improvement in the mode of access in academic libraries (Olle´ & Borrego 2009:46). Modern information and communication technologies (ICT) has turned around conventional library services which now boast of rich electronic resources collections and encourage students to use these electronic resources for their pedagogical development. (Swain 2010:580).

Among several studies conducted on academic staff and students' perception and attitude towards electronic resources, Shuling's (2006) & Mawindo Hoskins (2008) found that greater proportion of respondents preferred printed books to electronic resources. Ge (2010), Thanuskodi (2011), Garg (2014) reported that majority of respondents preferred electronic resources to print resources. Kumar & Kumar (2010), Tahir, Mahmood & Shafique (2010), Gupta & Sharma (2015) reported that majority of the respondents preferred to consult electronic resources and print resources. However, some of the respondents were not sure if print resources are better than electronic resources (Peris & Peris 2012).

Ranganthan (2011), Gupta & Sharma (2015) reported that the respondents believed that electronic resources contain sufficient information, easier and faster to access, provide relevant and specific information and contain current up-to-date information. Egberongbe (2011)

reported that majority of respondents believed that electronic resources cannot totally overtake print resources. Ge (2010) reported respondents' attitude toward electronic resources:

- 72% of respondents believed that academic standard would suffer without electronic resources
- 72% of respondents believed that absence of electronic resources would result in poor academic performance
- 80% of respondents believed that electronic resources would boost the image of the university
- 90% of respondents believed that open access resources are not sufficient, there is need to subscribe to paid electronic resources

Peris & Peris (2012) reported that respondents do not support the motion that electronic resources are unreliable and difficult to use, but agreed that some are not dependable because they do not have full-text, it is sometimes difficult to search for relevant information, and that they are expensive to acquire. Oyewusi & Oyeboade (2009:6) reported that respondents believed that electronic resources have enhanced their studies, meet research needs and are important for their work. This encouraged them to visit the library regularly. Warraich & Ameen (2008), Kwafoa, Imoro & Afful-Arthur (2014), Qasim (2015) reported that a large percentage of research participants were satisfied with electronic resources. However, Ahmed (2013) reported the dissatisfaction of research participants on library electronic resources.

The above studies concluded that respondents preferred both electronic and print resources to search for information, which implies that electronic resources cannot out rightly replace print resources vice versa. Respondents believed that electronic resources solve almost all their needs and are satisfied. Howbeit, locating information may be complex and difficult at times. They recommended that university libraries should organize computer literacy programme and create adequate awareness for electronic resources. University librarians should improve on electronic resources administration for effective library services. Library staff should frequently ask for researchers' opinions about the efficacy and usefulness of provided electronic resources. University management should encourage, promote and provide funds for the development of digital library and relevant subscriptions, and monitor its use to ensure that library management provide quality access to them. Public universities in developing country

should put resources together and form a consortium that ensures availability of electronic resources.

2.9 Challenges encountered by students and academic staff while accessing and using electronic resources

Electronic resources contain electronically stored information that is accessed through computer networks which require constant regular maintenance in order to ensure the reliability of access to complex electronic resources for effective delivery of impeccable library services (Haridasan & Khan 2009:118; Resnick & Clark 2009: 357). According to Wu & Chen (2012:641), it is easier and more convenient to access electronic resources than print resources because electronic resources offer easy searching and downloading opportunities despite its limitations during usage. Khan & Ahmed (2013:25) found that respondents could not access the digital library outside the university. The IP-based subscription method usually has this limitation depriving distant learners that are off campus access to library electronic resources since access has been restricted to the campus. According to Ozoemelem (2009:14), Tahir, Mahmood & Shafique (2010:133), Dhanavandan, Esmail & Nagarajan (2012:6), Amjad, Ahmed & Naeem, (2013), information overload was reported as a challenge respondent faced while accessing and using electronic resources. When information is replicated in too many sources, users find it difficult to search for information without assistance. Warraich & Ameen (2008:116), Egberongbe's (2011) findings show that issues bothering on power failure, connectivity speed, and poor/inadequate infrastructures were problems respondents encountered while accessing and using electronic resources. Ahmed's (2014:181) findings revealed that the public universities are not well equipped to deliver proper information technology-based information services, mostly due to the absence of appropriate information technology infrastructure, trained personnel and inadequate access to electronic resources. Kumar & Kumar (2010:143), Oduwole & Oyewunmi (2010:117), Kwafoa, Imoro & Afful-Arthur (2014:12) reported inadequate search skills, training, time to acquire skills are problems respondents encounter while accessing and using electronic resources.

Okiki (2012:6), Hadagali, Kumbar, Nelogal & Bachalapur (2012:193), Oyedapo & Ojo (2013:11), and Gupta & Sharma (2015:9-10) found that lack of support from library staff, difficulty in finding/lack of relevant information, shortage of qualified librarians are challenges respondents face while accessing and using electronic resources. Joshua (2014:8) reported that respondents highlighted the inability to read on screen and lack of relevant electronic resources

as a challenge. Swain (2010) reported that respondents highlighted insufficient time to access electronic resources due to class work overload. Qasim (2015) reported language barrier as a factor hindering access to and use of electronic resources. Ahmed (2013:302) found that insufficient subject titles was a challenge facing library users. Peris & Peris (2012) reported lack of awareness, inadequate publicity, available electronic resources not meeting user's needs, rigid policies, rules and regulations, lack of user-friendly services as challenges respondents face while accessing and using electronic resources. Ranganthan (2011) reported that respondents indicated lack of funds, while Dulle (2015) stated that the difficulty in retaining subscription rights to electronic resources due to its high cost is a major challenge developing countries face, which seriously affects access and use of these resources.

Warraich & Ameen (2008) reported that librarians providing electronic services were not well motivated; they are absent in the formulation of policies on electronic resources subscription. Ozoemelem (2009) reported that the credibility of information, inaccessibility, and difficulties in navigating some website while accessing and using electronic resources as problems faced by respondents. These studies concluded that though electronic resources have gained ground in academic libraries and information centers at the expense of print resources, lack of awareness and training, non-availability of relevant electronic resources, poor advocacy and infrastructure, lack of expertise in the use of ICT infrastructure, slow internet speed, erratic power supply, would always result in low usage of electronic resources.

They recommended that aggressive marketing of electronic resources, regular awareness, and training programme to improve electronic resources usage in universities and research organization. Library management should develop new information literacy programme for library users. The library should also invest in alternative power supply and improve internet connectivity. The university management should adequately fund the library and provide infrastructures that would make librarians render quality service and showcase library collections. Government should endeavour to provide adequate electricity supply and excellent infrastructure in schools.

2.10 Chapter Summary

This chapter reviewed existing literature on studies relating to access and use of electronic resources among academics and students. The chapter began with an introduction, discussing the importance of literature review and further looked at various types of electronic resources, the use of electronic resources, and users' awareness of electronic resources. In addition, accessibility of electronic resources, policies and infrastructures that enable academics and students to use electronic resources, perceptions, and attitudes of academic staff and students towards electronic resources, and challenges encountered by students and academic staff while accessing and using electronic resources were topics discussed in this chapter.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The research employs scientific methods to systematically carry out investigations to establish facts. The research approach, design, and methodology were based on the objectives outlined in chapter one. Mertler & Charles (2008:5), and Gay, Mills & Airasian (2009:6) defined research as "a formal, careful, systematic, patient application of the scientific method to the study of problems or investigation undertaken to discover or establish facts and relationships." The main objective of scientific research is to describe, explain, predict or control scientific phenomena. Achieving the desired result could be difficult due to research complexity in behavioural research if a systematic approach is not employed. The selection and definition of a problem, execution of research procedures, and analysis of data drawing and stating conclusions are steps employed in scientific research to achieve set objectives. The purpose of this study is to investigate the extent of accessibility to and the nature of usage of library electronic resources by students and staff of the National Open University of Nigeria (NOUN). And this chapter discusses the research approach and design used in this study.

3.2 Research Approach

Creswell (2014:31) describes research approaches as research plans and procedures that involve either a broad or detailed data collection methods, analysis, or interpretation. He emphasized that the nature of research problem, the subject matter, researchers' expertise and research respondents determine research approach selection. Three types of research approaches are commonly used in scientific researches; quantitative, qualitative, and mixed-methods. This study adopts a quantitative research approach.

The quantitative approach is the process of gathering and analyzing numerical data to describe, explain, predict, or control phenomena of interest (Gay, Mills & Airasian 2009:7; Mertler & Charles 2008:26). The application of this approach is in describing current conditions, investigating relations and studying cause-effect phenomena. Dilanthi, Baldry, and Sarshar (2002:20) stated that quantitative approach has a wide coverage potential, it is fast and economical

to implement, but it is inflexible, artificial and not very effective in understanding processes. The quantitative approach employs research design such as survey, correlational, casual-comparative, and experimental research. And the data collection techniques used in quantitative approach includes observation, questionnaires, interview, scales and physiological measurement. Quantitative approach data collection scope usually involves biological, physical and chemical samples, events whose selection according to Gay, Mills & Airasian (2009:15) are specific and narrow, and data measurable and observable.

This study utilizes quantitative research approach because it ensures an objective, detached position toward research participants and their setting and prepares impersonal, objective reports of research findings (Gall, Gall & Borg 2007:32). The quantitative research approach is generally used in social science to study behavioural pattern, perception, and attitude of research participants, and guarantees fair representation, reliable and valid generalization of research findings. The use of this approach will help to adequately investigate the extent of accessibility to and nature and of usage of library electronic resources by students and staff of the National Open University of Nigeria (NOUN).

3.3 Research Design

The research design is a type of inquiry within research approaches that gives precise direction when implementing research study procedures (Creswell 2014:295). These procedures are used in collecting and analyzing data in order to proffer solutions to problems by systematically applying scientific methods (Gay, Mills & Airasian 2009:6; Mavodza 2010:18). A research design also clarifies, predicts or controls occurrences of interest using both numerical data and research techniques in identifying statistically meaningful sample data and controlling contextual factors impeding data collection (Fraenkel, Wallen & Hyun 2012:7; Gay, Mills & Airasian 2009:7). There are three types of research approaches which employ different types of inquiry mechanisms to collect and analyze data. The designs can be categorized as follows:

1. The quantitative research designs: survey, case studies, observational, exploratory, cohort, correlational, quasi-experimental and experimental.

2. The qualitative research designs: case studies, ethnography, narrative research, phenomenology and grounded theory.
3. The mixed methods research designs: convergent, explanatory sequential, and exploratory sequential designs

The survey design was employed in this study. This was chosen by the researcher because of its ability to focus on describing the characteristics of potentially large groups of people (Mertler & Charles 2008:224). Abareshi & Martin (2009:137) define a survey research as a data collection method of getting information from a selected sample of people to generate statistics to answer the research question and make policies. They grouped survey into two elements:

(i) The form of data: this involves designing a structured data set.
(ii) The method of analysis: data analysis techniques.

There are 189,364 active students in NOUN and 2,656 staff (both academic and non-academic) with 70 study centers spread across the geopolitical zones in Nigeria (NOUN Annual Report2014/2015: 60). This informed the use of a cross-sectional survey for the study with the aim of obtaining statistics on the extent of accessibility to and the nature and usage of library electronic resources by students and staff of NOUN. The cross-sectional survey involves the examination of the characteristics of several samples that have been drawn from a predetermined population at one point in time (Mertler & Charles 2008:227; Fraenkel, Wallen & Hyun 2012:394).

3.4 Research Site

NOUN study centers are the research sites, located in six geopolitical zones of Nigeria (see table 3.1 below). These study centers are in three categories: Main study center, Special Study center, and Community study center. They are all homogenous. They all have the same organizational structure and offer all available courses using the same instructional materials. The distribution of the 70 study centers at zonal level is as follows: South West has 14 centers. South-South (11), South East (7), North Central (20), North West (9) and North East (9). The research sites are specific sources of research data (Mertler & Charles 2008:32). This study will focus on the study

centers with the substantial large population. Table 3.1 present the research sites with students, academic staff and academic librarian population at zonal level.

			TARGET POPULATION							
			STUDENTS						ACADEMIC STAFF	LIBRARIAN
		NO OF	UG		PG			Total		
S/NO	ZONE	CENTERS	400 Level	500 Level	PGD	Masters	PhD			
1	**South West**	14	13,255	4,258	10,496	12,482	75	40,566	257	24
2	**South South**	11	7,282	2,253	6,393	7,596	70	23,594	9	4
3	**South East**	7	2,793	2,188	3,612	4,437	73	13,103	6	6
4	**North Central**	20	6,724	2,033	11,264	15,370	75	35,466	20	10
5	**North West**	9	1,864	698	1,902	3,010	43	7,517	8	8
6	**North East**	9	1,026	418	1,079	1,998	26	4,547	9	2
	Total	**70**	**32,944**	**11,848**	**34,746**	**44,893**	**362**	**124,793**	**309**	**54**

Table 3.1: Research sites: Final year students (undergraduate and postgraduates), Academic staff and Librarians population distribution

(Source: NOUN ICT Database 2016, NOUN 2014/2015 Annual Report and NOUN University Library 2016 respectively)

3.5 Target Population

Population in research refers to all the members of a particular group to whom the researcher would like to generalize the results of a study (Fraenkel, Wallen & Hyun 2012:106). The population for this study is classified into three categories, namely academic librarians, academic staff members (i.e. faculty members), and students. According to NOUN Annual Report (2014/2015: 79), there are 189,364 registered students, 2,656 staff members. 370 are academics, 2,286 are non-academics. The library staff totals 80, out of which there are 54 academic librarians (National Open University of Nigeria Library 2016). See Table 3.1 for the distribution of the target population across the various categories. The above-mentioned groups of people were selected because they are expected to make the most use of the electronic resources for acquisition of knowledge, teaching, writing of term papers, continuous assessments, dissertations, research publications, and conference and workshop paper presentations. The librarians are also required to double as researchers and as providers of library services, which include electronic resources support.

3.6 Sampling methods and procedures

A sample is a set from which data is acquired (Fraenkel, Wallen & Hyun 2012:91). Sampling is the process of selecting a smaller group that accurately represent a defined population with the aim to obtain maximum information at a minimal cost about the population (Gall, Gall & Borg 2007:166; Sullivan 2012:30). Sampling methods in quantitative research are in two categories: (a) probability sampling which include simple random sampling, systematic random sampling, stratified random sampling, cluster sampling and (b) nonprobability sampling, comprising convenience sampling, purposive sampling, and quota sampling. The use of a sampling method was necessary for this study in view of the large population for easy administration of research instruments (i.e. questionnaires), minimization of cost, and reduction of time spent, to obtain a representative sample from academic librarians, academic staff and the students of NOUN. Both probability and nonprobability sampling methods were used.

The National Open University of Nigeria has 70 study centers grouped into six geopolitical zones of Nigeria. Getting a fair representation of the target population was key to the success of this research. To determine the number of desired study centers which are within the six geopolitical

zones and the number of desired research participants that received questionnaires, purposive sampling was used. Purposive sampling is used to select a sample using previous experience or knowledge of the population for study by deliberately identifying selection criteria based on the researcher's judgment (Gay, Mills & Airasian 2009:134; Mertler & Charles 2008:127 & Fraenkel, Wallen & Hyun 2012:100). A systematic random sampling technique was employed to select the desired research participants from each subgroup (stratum) which was presented on an excel spreadsheet list. Mertler & Charles (2008:126) described systematic random sampling as a process of compiling members of the population on a master list with the intention of obtaining samples directly from the list using an n^{th} value for selection of names (i.e. after selecting the first name, every nth person would be selected). The n^{th} person was determined by taking the total number of subjects in the population and dividing it by the number needed for the sample.

3.6.1 Sample frame

According to Gall, Gall & Borg (2007:167), sampling frames are published lists used as guidelines to identify the research population. The sample frame includes a list of target research participants from the selected study centers. These study centers were selected through purposive sampling techniques. To ensure that the study was well executed having a fair representation of the target population, two sample frames were used. The first sample frame consists of students, classified into subgroups (Level) in each selected study centers and the second sample frame consist of academic staff, also classified into subgroups (academic staff/academic librarian).

Four lists were used to obtain the population. These lists were NOUN ICT Students database 2016, NOUN 2014/2015 Annual Report, NOUN University Library 2016, and NOUN Staff list. The first list was obtained from the NOUN ICT department, the second list was obtained from NOUN published 2014/2015 Annual report, the third list was obtained from the university librarian office, while the fourth list was obtained from the office of the registrar. The students' database was an excel file containing over 180,000 student records. The students' database has the following heading: MatricNumber, Surname, OtherNames, ProgrammeName, ProgrammeId SchoolName, CenterName, CenterCode, Email, PhoneNumber, CurrentLevel, YearOfAdmission, and Gender. The NOUN Annual report is a yearly published official document of the university stating in a tabular form the academic staff population amongst others. The librarian list was an excel file

containing 80 library staff (academic and non-academic) with the following heading: StaffId, Name, Sex, Designation, Center, Email Address, and Phone Number. The staff list was an excel file containing 370 academic staff with the following heading: StaffNumber, Name, Sex, Designation, and office. The data were compiled, organized and analyzed in Microsoft excel. Unwanted data, such as students in other levels other than final year and postgraduate students were eliminated. The filtered records were further separated into different worksheets to retrieve population size in each level within the various centers. Academic staff and academic librarian data were compiled and organized in separate Microsoft excel worksheet.

3.6.2 Sampling Procedures

There are two sampling procedures: random (probability) sampling and nonrandom (nonprobability) sampling. According to Gay, Mills & Airasian (2009), random sampling is the process that specifies the probability or chance that a particular member of a defined population would be selected as a sample, while a nonrandom sampling is initiated when the process of probability specifications is ignored when selecting a sample. Nonrandom sampling was used to select the desired number zones and the participating study centers from the target student population. The researcher used this procedure because of the homogenous nature of the population. Purposive sampling, which is selection based on knowledge of the group to be sampled was used based on population size. Study centers with large population size were given higher priority. The target population distribution of students at each level from the desired study center is highlighted in the table below (table 3.2)

S/N	ZONE	STUDY CENTER	POPULATION					TOTAL
			400 LEVEL	500 LEVEL	PGD (700 LEVEL)	MASTERS (800 LEVEL)	PhD	
1	South West	Ibadan Study Center	1260	369	942	1023	10	3604
2	South West	Lagos, Apapa	1592	234	1109	1343	29	4307
3	South West	Lagos, Agidingbi	6918	1831	4756	5752	18	19275

4	South South	Benin Study Center	2487	689	1390	1849	17	6432
5	South South	Port Harcourt Study Center	1985	835	2335	2454	24	7633
6	South East	Enugu Study Center	810	737	1398	1439	27	4411
7	North Central	Minna Study Center	470	104	740	1274	9	2597
8	North Central	Ilorin Study Center	1160	232	864	1235	7	3498
9	North Central	Jos Study Center	832	535	1041	1196	5	3609
10	North Central	Abuja Study Center	1989	573	5303	7699	28	15592
11	North West	Kano Study Center	526	119	398	676	17	1736
12	North West	Kaduna Study Center	703	203	792	1142	17	2857
13	North East	Maiduguri Study Center	205	124	191	397	9	926
14	North East	Bauchi Study Center	309	73	213	445	6	1046
								77523

Table 3.2: Target Student Population in each Level from the Desired Study Center

3.6.3 Sample size

The sample size is a scientifically selected number of participants or materials which are a subset of the target research population. According to Mertler & Charles (2008:128), samples smaller than 30 are not likely to reflect the trait distributions that exist in the population. Thus, sample size can be said to be that scientifically obtained size that reflects the target population trait distributions. The total student target population is **77,523** spread across the six geopolitical zones. Using Sample Size Table (see table 3.3 below) with a Confidence Level = 95% and Margin of Error = 2.5% (Research Advisors 2006:2). **1,513** was selected as the Desired Student Sample size.

Required Sample Size†

Population Size	Confidence = 95% Margin of Error				Confidence = 99% Margin of Error			
	5.0%	3.5%	2.5%	1.0%	5.0%	3.5%	2.5%	1.0%
10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20
30	28	29	29	30	29	29	30	30
50	44	47	48	50	47	48	49	50
75	63	69	72	74	67	71	73	75
100	80	89	94	99	87	93	96	99
150	108	126	137	148	122	135	142	149
200	132	160	177	196	154	174	186	198
250	152	190	215	244	182	211	229	246
300	169	217	251	291	207	246	270	295
400	196	265	318	384	250	309	348	391
500	217	306	377	475	285	365	421	485
600	234	340	432	565	315	416	490	579
700	248	370	481	653	341	462	554	672
800	260	396	526	739	363	503	615	763
1,000	278	440	606	906	399	575	727	943
1,200	291	474	674	1067	427	636	827	1119
1,500	306	515	759	1297	460	712	959	1376
2,000	322	563	869	1655	498	808	1141	1785
2,500	333	597	952	1984	524	879	1288	2173
3,500	346	641	1068	2565	558	977	1510	2890
5,000	357	678	1176	3288	586	1066	1734	3842
7,500	365	710	1275	4211	610	1147	1960	5165
10,000	370	727	1332	4899	622	1193	2098	6239
25,000	378	760	1448	6939	646	1285	2399	9972
50,000	381	772	1491	8056	655	1318	2520	12455
75,000	382	776	1506	8514	658	1330	2563	13583
100,000	383	778	1513	8762	659	1336	2585	14227
250,000	384	782	1527	9248	662	1347	2626	15555
500,000	384	783	1532	9423	663	1350	2640	16055
1,000,000	384	783	1534	9512	663	1352	2647	16317
2,500,000	384	784	1536	9567	663	1353	2651	16478
10,000,000	384	784	1536	9594	663	1354	2653	16560
100,000,000	384	784	1537	9603	663	1354	2654	16584
300,000,000	384	784	1537	9603	663	1354	2654	16586

Table 3.3: Sample Size Table

Stratified random sampling and systematic sampling was used to select research participants in the desired study centers. The desired research sample size in each selected study centers was obtained by getting the percentage representation of the target population and then multiplying it with the

desired student sample size (1,513) obtained from Research Advisor (2006:2) using stratified random sampling technique. The following procedures were to obtain the sample size:

1. The representative percentage of students in selected study center was determined using the formula n/N x 100, where n = student population in a selected center and N = total student population in all selected centers. As a result, the representative percentage of students in Ibadan study center was 4.65% of the total student population in all selected centers (i.e. 77,523). The other study centers were represented as follows: Lagos, Apapa, (5.56%), Lagos, Agidingbi (24.86%), Benin Study Center (8.30%), Port Harcourt Study Center (9.85%), Enugu Study Center (5.69%), Minna Study Center (3.35%), Ilorin Study Center (4.51%), Jos Study Center (4.66%), Abuja Study Center (20.11%), Kano Study Center (2.24%), Kaduna Study Center (3.69%), Maiduguri Study Center (1.20%) and Bauchi Study Center (1.35%) of the total student population in all selected centers.

2. To obtain the representative student sample size in selected study center, the representative percentage of students in selected study center was multiplied by the desired student sample size (desired student sample size derived from the sample size table (see table 3.10) with a Confidence Level = 95% and Margin of Error = 2.5% (Research Advisors 2006:2) was 1,513). As a result, the representative sample size of students in Ibadan Study Center was 70. The other selected study centers students sample size was represented as follows: Lagos, Apapa, (84), Lagos, Agidingbi (376), Benin Study Center (126), Port Harcourt Study Center (149), Enugu Study Center (86), Minna Study Center (51), Ilorin Study Center (68), Jos Study Center (71), Abuja Study Center (304), Kano Study Center (34), Kaduna Study Center (56), Maiduguri Study Center (18), Bauchi Study Center (20)

S/N	**ZONE**	**STUDY CENTER**	**SAMPLE SIZE**
1	South West	Ibadan Study Center	70
2	South West	Lagos, Apapa	84
3	South West	Lagos, Agidingbi	376
4	South South	Benin Study Center	126
5	South South	Port Harcourt Study Center	149

6	South East	Enugu Study Center	86
7	North Central	Minna Study Center	51
8	North Central	Ilorin Study Center	68
9	North Central	Jos Study Center	71
10	North Central	Abuja Study Center	304
11	North West	Kano Study center	34
12	North West	Kaduna Study Center	56
13	North East	Maiduguri Study Center	18
14	North East	Bauchi Study Center	20
			1513

Table 3.4: Desired student sample size in selected study centers across the six geopolitical zones

3. The representative percentage of students in each level was determined using the formula n/N x 100, where n = student population in a selected level and N = total student population in a selected center (see table 3.5). As a result, the representative percentage of students in 400 level was 34.96% of the total student population in **Ibadan study center** (i.e. 3,604). Other levels were represented as follows: 500 level (10.24%), PGD (26.14%), Masters (28.39%) and Ph.D. (0.28%) of the total student population in Ibadan study center.
    - **Lagos, Apapa**: 400 level (36.96%), 500 level (5.43%), PGD (25.75%), Masters (31.18%) and PhD (0.67%) of the total student population in the center (i.e. 4,307).
    - **Lagos, Agidingbi**: 400 level (35.90%), 500 level (9.50%), PGD (24.68%), Masters (29.84%) and PhD (0.09%) of the total student population in the center (i.e. 19,275)
    - **Benin study center**: 400 level (36.67%), 500 level (10.71%), PGD (21.61%), Masters (28.74%) and PhD (0.26%) of the total student population in the center (i.e. 6,432).
    - **Port Harcourt Study Center**: 400 level (26.01%), 500 level (10.94%), PGD (30.59%), Masters (32.15%) and PhD (0.31%) of the total student population in the center (i.e. 7,633).

- **Enugu Study Center**: 400 level (18.36%), 500 level (16.71%), PGD (31.69%), Masters (32.62%) and PhD (0.61%) of the total student population in the center (i.e. 4411).
- **Minna Study Center**: 400 level (18.10%), 500 level (4.01%), PGD (28.49%), Masters (49.10%) and PhD (0.34%) of the total student population in the center (i.e. 2,597).
- **Ilorin Study Center**: 400 level (33.16%), 500 level (6.63%), PGD (24.70%), Masters (35.31%) and PhD (0.20%) of the total student population in the center (i.e. 3,498)
- **Jos Study Center**: 400 level (23.05%), 500 level (14.82%), PGD (28.85%), Masters (33.14%) and PhD (0.14%) of the total student population in the center (i.e. 3,609).
- **Abuja Study Center**: 400 level (12.76%), 500 level (3.68%), PGD (34.01%), Masters (49.38%) and PhD (0.18%) of the total student population in the center (i.e. 15,592)
- **Kano Study Center**: 400 level (30.30%), 500 level (6.86%), PGD (22.93%), Masters (38.94%) and PhD (0.97%) of the total student population in the center (1,736).
- **Kaduna Study Center**: 400 level (24.61%), 500 level (7.11%), PGD (27.72%), Masters (39.97%) and PhD (0.60%) of the total student population in the center (i.e. 2,857)
- **Maiduguri Study Center**: 400 level (22.14%), 500 level (13.39%), PGD (20.63%), Masters (42.87%) and PhD (0.97%) of the total student population in the center (i.e. 926).
- **Bauchi Study Center**: 400 level (29.54%), 500 level (6.98%), PGD (20.36%), Masters (42.54%) and PhD (0.57%) of the total student population in the center (i.e. 1,046).

S/N	**ZONE**	**STUDY CENTER**	**REPRESENTATIVE PERCENTAGE**				
			400 (%)	**500 (%)**	**PGD (700) (%)**	**MASTERS (800) (%)**	**PhD (%)**
1	South West	Ibadan Study Center	34.90	10.24	26.14	28.39	0.28
2	South West	Lagos, Apapa	36.96	5.43	25.75	31.18	0.67
3	South West	Lagos, Agidingbi	35.90	9.50	24.68	29.84	0.09
4	South South	Benin Study Center	36.67	10.71	21.61	28.74	0.26

5	South South	Port Harcourt Study Center	26.01	10.94	30.59	32.15	0.31
6	South East	Enugu Study Center	18.36	16.71	31.69	32.62	0.61
7	North Central	Minna Study Center	18.10	4.01	28.49	49.10	0.34
8	North Central	Ilorin Study Center	33.16	6.63	24.70	35.31	0.20
9	North Central	Jos Study Center	23.05	14.82	28.85	33.14	0.14
10	North Central	Abuja Study Center	12.76	3.68	34.01	49.38	0.18
11	North West	Kano Study Center	30.30	6.86	22.93	38.94	0.97
12	North West	Kaduna Study Center	24.61	7.11	27.72	39.97	0.60
13	North East	Maiduguri Study Center	22.14	13.39	20.63	42.87	0.97
14	North East	Bauchi Study Center	29.54	6.98	20.36	42.54	0.57

Table 3.5: The representative percentage of students in each level

4. To obtain the representative class level sample size in selected study centers, the representative percentage of students in the various levels was multiplied by the representative sample size of students in the selected study center (see table 3.6). As a result, the representative class level sample size in Ibadan Study Center was 25 for 400 level, 7 for 500 level, 18 for PGD, 20 for Masters and 0 for PhD. The other study centers' class level sample size was represented as follows: Lagos, Apapa, (400 level = 31; 500 level = 5; PGD = 22; Masters = 26; PhD = 1), Lagos, Agidingbi (400 level = 135; 500 level = 36; PGD = 93; Masters = 112; PhD = 0), Benin Study Center (400 level =46; 500 level = 14; PGD = 27; Masters = 36; PhD = 0), Port Harcourt Study Center (400 level = 39; 500 level = 16; PGD = 46; Masters = 48; PhD = 1), Enugu Study Center (400 level = 16; 500 level = 14; PGD = 27; Masters = 28; PhD = 1), Minna Study Center (400 level = 9; 500 level = 2; PGD = 15; Masters = 25; PhD = 0), Ilorin Study Center (400 level = 23; 500 level = 5; PGD = 17; Masters = 24; PhD = 0), Jos Study Center (400 level = 16; 500 level = 11; PGD = 21; Masters = 24; PhD = 0), Abuja Study Center (400 level = 39; 500 level = 11; PGD = 103; Masters = 150; PhD = 1), Kano Study Center (400 level = 10; 500 level = 2; PGD = 8; Masters = 13; PhD = 0), Kaduna Study Center (400 level = 14; 500 level = 4; PGD = 16; Masters = 22; PhD = 0), Maiduguri Study Center (400 level = 4; 500 level = 2; PGD = 4; Masters = 8; PhD = 0), Bauchi Study Center (400 level = 6; 500 level = 1; PGD = 4; Masters = 9; PhD = 0)

S/N	ZONE	STUDY CENTER	DESIRED SAMPLE SIZE					TOTAL
			400	**500**	**PGD (700)**	**MASTERS (800)**	**PhD**	
1	South West	Ibadan Study Center	25	7	18	20	0	**70**
2	South West	Lagos, Apapa	31	5	22	26	1	**85**
3	South West	Lagos, Agidingbi	135	36	93	112	0	**376**
4	South South	Benin Study Center	46	14	27	36	0	**123**
5	South South	Port Harcourt Study Center	39	16	46	48	1	**150**
6	South East	Enugu Study Center	16	14	27	28	1	**86**
7	North Central	Minna Study Center	9	2	15	25	0	**51**
8	North Central	Ilorin Study Center	23	5	17	24	0	**69**
9	North Central	Jos Study Center	16	11	21	24	0	**72**
10	North Central	Abuja Study Center	39	11	103	150	1	**304**
11	North West	Kano Study Center	10	2	8	13	0	**33**
12	North West	Kaduna Study Center	14	4	16	22	0	**56**
13	North East	Maiduguri Study Center	4	2	4	8	0	**18**
14	North East	Bauchi Study Center	6	1	4	9	0	**20**
		TOTAL	**413**	**130**	**421**	**545**	**4**	**1513**

Table 3.6: Desired student sample size of students across the six geopolitical zones

The Academic staff population is 370. 275 are lecturers in the various academic units and 54 are academic librarians. These two groups constitute the target population. The remaining 41 academic staff occupy positions such as study center directors (35), heads of directorate (4), and the office of the vice chancellor (3)

Academic Unit	Population	Sample Size
School of Arts & Social Science	58	29
School of Agricultural Science	8	4
School of Education	37	19
School of Health Sciences	38	19
School of Law	17	9
School of Management Sciences	58	29
School of Science & Technology	39	20
Access and General Studies Center	3	2
Center for lifelong learning	8	4
Regional Training & Research Institute for Open and Distance Learning (RETRIDAL)	9	5
Library	54	27
TOTAL	**329**	**167**

Table 3.7: Academic staff population/Desired sample size

Purposive sampling technique was used to select the desired sample size of academic staff and academic librarian based on previous experience or knowledge of the population for study by deliberately identifying selection criteria based on the researcher's judgement (Gay, Mills & Airasian 2009:134; Mertler & Charles 2008:127 & Fraenkel, Wallen & Hyun 2012:100). The researcher decided to use 50% the entire academic population as a sample size to get a fair representation. That is, 50% of Academic Librarian = 27 sample size and 50% of Academic Staff = 140 (approx.) sample size.

Microsoft Excel was used to randomly select the respondent's name from the target population list on the spreadsheet using the RANDBETWEEN () function. The random numbers generated tally with the desired students and academic staff sample size.

3.7 Data collection methods and procedures

Survey research design has four basic data collection procedure; through the web (online survey tools), through the mailing system, through a face-to-face interview or telephone and through the live administration of survey instrument (Fraenkel, Wallen & Hyun 2012:396). This study used the online survey tool (google form) to collect primary source data from respondents at the selected study centers to find answers to the research objectives. According to Gay, Mills & Airasian (2009:177), questionnaires are collections of survey questions given to chosen sample research participants. The Online form questionnaire was sent to respondents' email. The researcher believes that collection of data through the use of questionnaires from academic librarians, academic staffs and students would assist in obtaining all the necessary information needed to investigate the level of accessibility and nature of usage of library electronic resources by staff and students of National Open University of Nigeria (NOUN). The email addresses of respondents were obtained from NOUN ICT Student registration unit and the academic unit. Respondents consent in conformity with UNISA research ethics policy was sought for, through a letter of introduction preceding the questionnaires.

3.7.1 The Questionnaire

As an object of investigation to produce trustworthy information, questionnaires are the popular formulation of the process of asking simple and natural questions from a group of people with the aim of learning people's actual behaviour (Bookstein 1985:24). A questionnaire is a written survey instrument employed by researchers to get the views of a selected group of people on a subject matter following a predetermined, well-structured and easy to answer set of questions (Gall, Gall & Borg 2007; Gay, Mills & Airasian 2009). The use of a questionnaire for the study was informed by its ability to:

1. gather information from the large population at minimal cost (Gay, Mills & Airasian 2009).
2. administer questions to many people at the same time (Fraenkel, Wallen & Hyun 2012).
3. collect data within a short period of time (Gall, Gall & Borg 2007).
4. be broader in scope and less personal in nature (Mertler & Charles 2008).

A structured (closed-ended) questionnaires present multiple options from which research participant choose from, while an unstructured (open-ended) questionnaires allow research

participants to freely fill their responses in their own words without restrictions (Gay, Mills & Airasian 2009). The questionnaire was formulated using a structured (closed-ended) format that consists of multiple-choice questions from which research participants can select an answer from a few options. According to (Fraenkel, Wallen & Hyun (2012), closed-ended questions are easy to use, score and code because they provide standardized data that allow research participants to respond to same option questions. In this study, a structured questionnaire was used for data collection.

The questionnaire was designed for the academic staff, academic librarians, final year undergraduate students and postgraduate students in order to know the extent of accessibility to and the nature of usage of library electronic resources within NOUN. The objectives of the study were the main fulcrum on which the questionnaire was designed. The questionnaire was divided into two parts. The first part contains the introduction of the researcher, the research topic, respondent selection method, and information on how to answer the questions in the questionnaire ***(see Appendix 1).*** The second part has six, seven, and eight sections containing the research questions for the students, academic staffs and academic librarians respectively. The sections include: personal details; types of electronic resources provided at NOUN; staff and students awareness of electronic resources provided by the library; types of electronic resources used by academic staff and students; how academic staff and students access electronic resources; the perceptions and attitude of academic staff and students toward library electronic resources; the difficulties encountered by academic staff and students while accessing and using library electronic resources; the policies and infrastructure that enable the use of electronic resources *(see Appendix 2 - 4)*. The content of the questionnaire was developed through the review of literature and respondents were provided with Likert scale questions to make appropriate choices.

There are limitations of the questionnaire which include: the inability to deeply probe into research participants' experiences, beliefs and attitudes; research participants' inability to clarify unclear and ambiguous questions, and the difficulty of effecting corrections once questionnaires have been sent to research field (Gall, Gall & Borg 2007; Fraenkel, Wallen & Hyun 2012). However, to reduce the effect of these limitations, questionnaire pre-testing through a pilot test as well as the proper design of the questionnaire were employed. The questions were formulated in a simple,

clear, concise, unambiguous and easy to understand structured format based on the research objectives and questions, and logically arranged from the easiest to the most difficult using a reader-friendly font type and size in order encourage high response rate and obtain accurate information. Instructions guiding the research participant on how to fill the questionnaire were also provided to avoid ambiguity. The pilot test was intended to ascertain the adequacy of the research instruments and to formulate appropriate data analysis techniques that will ensure reliability and validity of the study.

The researcher used electronic mail method of questionnaire distribution. Questionnaires designed using google forms were sent to research participants email addresses. According to Gay, Mills & Airasian (2009), the components of basic research ethics include the principle of beneficence and nonmaleficence, fidelity, and responsibility, integrity, justice and respect for people's rights and dignity. A cover letter explaining the purpose of the study and assuring research participant of anonymity and confidentiality of their responses was attached to each questionnaire with the signature of the researcher. A cover letter accompanies a questionnaire, explaining the purpose of the study and describing what the participants will be asked and the benefit of the research study (Gall, Gall & Borg 2007). The google forms questionnaire responses were collected in a pre-defined spreadsheet format online.

3.8 Reliability and validity

In reliability, the focus is always on the consistency of data and the point at which a test is error free; and the confidence that is generated when the same test conducted at different time on the same respondents yields the same result (Gall, Gall & Borg 2007:200; Mertler 2008:36; Gay, Mills & Airasian2009:154). The reliability of the instrument was established via pilot test. The researcher administered a pilot test; the pilot test is a small-scale implementation of the draft questionnaire that assesses: questionnaire clarity, questionnaire comprehensiveness, and questionnaire acceptability. This approach helped the researcher to make corrections and addressed other shortfalls to make an appropriate instrument for the actual research population. The draft survey pilot test was administered to 20 participants in one of the study centers in the National Open University of Nigeria that were not part of the main sample but possessed every characteristic as the main sample of the study. To determine the extent to which the content

instruments were consistent in eliciting the same responses, the researcher employed Cronbach's alpha statistics. The respondent's selected options on the questionnaires were coded in excel and SPSS version 17 was used to analyze the data. The results of the reliability test are presented in Table 3.8.

Questions Theme	**Cronbach's Alpha**	**Cronbach's Alpha Based on Standardized items**	**No of Items**
Section B: Students Awareness of Electronic Resources Provided by the Library	0.903	0.900	40
Section C: How Students Access Electronic Resources	0.863	0.865	36
Section D: Used of Electronic Resources Students	0.888	0.891	40
Section E: The Perceptions and Attitude of Students toward Library Electronic Resources	0.901	0.907	46
Section F: The Difficulties Encountered by Students while Accessing and Using Library Electronic Resources	0.740	0.726	19
Overall Reliability of Questionnaire with 181 items	0.934	0.935	181

Table 3.8: Reliability Test Result

Table 3.8 above showed that all the reliability tests were high and the overall Cronbach's alpha value is 0.934 which is more than the recommended value of 0.7. This indicates that the constructs are reliable and can be used for the study.

While validity reveals the magnitude to which data represent a research topic in measuring accurately what it ought to measure using an instrument to generate a correct interpretation of data which is a major consideration when developing and evaluating tests (Mertler 2008:36; Gay, Mills & Airasian2009:158). For the instrument to be valid the content selected and included in the questionnaire must be relevant to the variable being investigated. The instrument for this study was subjected to validation by sending copies of the initial draft of the questionnaire to experts in library and information science to check the appropriateness and the comprehensiveness of research instruments, modify, restructure, reorganize the items and rate the relevance of the items with the purpose of meeting the objectives of the study. According to Fraenkel, Wallen & Hyun (2012), the amount and type of evidence available to support researchers' interpretation of collected data determine the validity the research.

3.9 Data analysis and presentation

Data analysis is a procedure carried out on collected data from a research process in order to interpret data which are subjected to research hypothesis test or answering research questions using statistical techniques (Gay, Mills & Airasian2009:6; Mavodza 2010:124). While Strydom (2012:116) posits that data analysis objective is the development of insight and understanding into research processes to assist researchers to order information and divide it into manageable units so as to determine relationships, patterns, and themes. The data collected from this study were analyzed through descriptive and inferential statistical tools using Statistical Package for the Social Sciences (SPSS). The research questions were entered into the variable view of the SPSS software and coded while the responses of each respondent entered into the data view. Descriptive statistics was run on the data to generated frequencies, mean and standard deviation. Descriptive statistics was used to answer research questions.

3.10 Ethical considerations

The UNISA Ethics Policy highlights Moral Principles, Essentiality and Relevance, Maximization of Public Interest and of Social Justice, Competence, Ability and Commitment to Research, Respect for and Protection of Participants' Rights, Informed and Non-Coerced Consent, Respect for Cultural Differences, Justice, Fairness and Objectivity, Integrity, Transparency and Accountability, Risk Minimization, and Non-Exploitation, as requirement that must be met in

carrying out a research (UNISA 2007:9). This research adheres to the UNISA ethics policy (Unisa 2007). Onwuegbuzie and Collins (2007: 306) opine that ethical guidelines are instituted to maintain the integrity of research and protect sample members. Ethical standards in library and information science place emphasis on the confidentiality of participants, trust, and the responsibility of researchers and participants to be trustworthy in order to achieve an unbiased research result (Gay, Mills & Airasian2009:19; Mavodza 2010:43). In order to achieve an unbiased research result, the researcher did the following:

- A cover letter (letter of introduction), attached to the questionnaire was written by the researcher to research participants disclosing the purpose of the study and seeking their consent with a promise that their privacy will be guaranteed (see appendix one). The researcher assured research participants that data collected would only be used for the purpose of the study only.
- The samples (research participants) were obtained through the scientific method of random sampling to ensure an equitable selection and were not forced or cajoled to participate in the study.
- The research questions were designed to avoid leading questions and a pre-test (i.e. pilot-test) was conducted to measure its validity and reliability. Questions requesting for sensitive information were avoided.
- Data analysis was carried out on collected data using approved and recognized scientific methods, and reports were generated in clear terms.
- All cited sources in the study were properly acknowledged to avoid plagiarism.

The researcher ensured that participants' anonymity, confidentiality was observed and access permission to the target population was by informed consent, protecting individuals from harm caused by participating in and presenting the research.

3.11 Chapter summary

This chapter discussed the methodology approach employed in the study. The research approach, design, and site were discussed. The target population, sampling procedures and methods, sample frame and size were presented. The method used for respondent's selection, data collection method, analysis, and ethical consideration were explained. Research findings based on data collected through questionnaires shall be presented in chapter four.

CHAPTER FOUR
PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

The result, analysis, and interpretation of data for this study are presented in this chapter. The descriptive statistics such as frequency counts, percentages, means and standard deviation were used. Tables were used for presentation. In addition, respondents were asked to indicate their opinion on the questionnaire which was measured by the following five-point scales:

1. Strongly Disagree (SD), Disagree (D), Undecided (UD), Agree (A), Strongly Agree (SA);
2. Not Effective (NE), Somewhat Effective (SE), Effective (EF), Very Effective (VE), Most Effective (ME);
3. Very Difficult (VD), Difficult (DF), Undecided (UD), Easy (E), Very Easy (VE);
4. Never (N), Rarely (R), Occasionally (OC), Often (OF), Most Often (MO);
5. Rarely (R), Monthly (M), Once Weekly (OW), Twice Weekly (TW), Daily (DL);
6. Unimportant (UP), Somewhat Important (SI), Important (IM), Very Important (VI), Extremely Important (EI);
7. Very Dissatisfied (VD), Dissatisfied (DS), Undecided (UD), Satisfied (ST), Very Satisfied (VS); and
8. Not at all Useful (NAU), Not Useful (NU), Not Sure (NS), Useful (US), Very Useful (VU).

4.2 Response Rate

Questionnaires were sent to respondents through google forms, an online survey tool. The respondents include Final year undergraduate, PGD, Masters, Ph.D. students, the Academic staffs, and Academic Librarians. The study targeted 1,680 population samples of which include 1,513 Students, 140 Academic staffs, and 27 Academic Librarians. 1,013 (67%) Students, 110 (79%) Academic staffs and 27 (100%) Librarians responded to the questionnaire. The overall response rate 1,150 (68%) which shows a good representation of the sample population.

4.3 Demographic profile of the respondents

The study included the academic librarians, academic staffs and students of the National Open University of Nigeria, Abuja and the number of respondents included in the study was One

thousand, One hundred and fifty (1,150). The demographic profiles of the respondents are presented in tables. A breakdown of the total number of respondents used for this study based on category is indicated in Table 4.1.

Table 4.1: Distribution of respondents based on category

Category of respondents	**Frequency**	**Percentages (%)**
Academic Librarians	27	2.4
Academic staffs	110	9.5
Students	1,013	88.1
Total	**1,150**	**100.0**

Table 4.1 above showed that 27(2.4%) of the respondents were academic librarians, 110(9.5%) were academic staffs and 1013(88.1%) of the respondents were students. This implies that the highest number of the respondents were students whose population was the largest as indicated in chapter 3, section 3.3.

Table 4.2 shows the distribution of the respondents (academic librarians) by selected demographic characteristics.

Table 4.2: Demographic data about the respondents (academic librarians)

Demographic characteristics	**Frequency**	**Percentage (%)**
Gender		
Male	9	33.3
Female	18	66.7
Total	**27**	**100**
Age		
<24 years		
25 -29 years	1	3.7
30-34 years	10	37.0
35-39 years	7	25.9
40-44 years	4	14.8

45-49 years		
>50 years	4	14.8
No response	1	3.7
Total	**27**	**100**
Academic qualifications		
Bachelor	9	33.3
Masters	15	55.6
Ph.D.	3	11.1
Total	**27**	**100**

Table 4.2 reflects the demographical data of the respondents (academic librarians). The results showed that out of 27 respondents, 18(66.7%) were females, while the remaining 9(33.3%) were males. The dominance of females in the librarianship profession could be attributed to the fact that females tend to be naturally more caring than their male counterparts, and librarianship is all about caring for information resources and helping people to get this information. The results also showed that of the 27 respondents**,** the majority of them that is 16(59.3%), were within 30-34 years age bracket. A total of 4(14.8%) respondents were within 40-44 years age bracket and 50 years and above age bracket respectively. Only 1(3.7%) was within 25-29 years age bracket, while a total of 2(7.4%) gave no response. In addition, the mean age of the respondents (academic librarians) was 37.9. This implies that the academic librarians at the NOUN are young, and vibrant having more active years to spend in the service of the organization. In addition, of the 27 respondents, 3(11.3%) were holders of Ph.D. degree, 15(55.6%) had master's degree or its equivalent, 9(33.1%) had bachelor's degree or its equivalents. One can, therefore, infer that the sampled academic librarians were highly educated and qualified for the job. The demographic data about the respondents (academic librarians) are presented in Table 4.2.

Table 4.3 shows the distribution of the respondents (academic staffs) by selected demographic characteristics.

Table 4.3: Demographic data about the respondents (academic staffs)

Demographic characteristics	Frequency	Percentage (%)
Gender		
Male	58	52.7
Female	48	43.6
No response	4	3.6
Total	**110**	**100**
Age		
<24 years		
25 -29 years	6	5.5
30-34 years	15	13.6
35-39 years	16	14.5
40-44 years	18	16.4
45-49 years	26	23.6
>50 years	27	24.5
No response	2	1.8
Total	**110**	**100**
Academic Qualifications		
Bachelor	10	9.1
Masters	32	29.1
Ph.D.	66	60
No response	2	1.8
Total	**110**	**100**

Table 4.3 reflects the demographical data of the respondents (academic staffs). The results showed that out of 110 respondents, 58(52.7%) were males while48 (43.6%) were female while a total of 4(3.6%) gave no response. This showed that majority of them were males. The results also showed that of the 110 respondents, 27(24.5%) were 50 years and above age bracket. A total of 26 (23.6%) respondents were within 45-49 years age bracket; 18(16.4%) were within 40-44 years age bracket; 16(14.5%) were within 35-39 years age bracket; 15(13.6%) were within 30-34 years age bracket;

and 6(5.5%) were within 25-29 years age bracket, while a total of 2(1.8%) gave no response. In addition, the mean age of the respondents (academic staffs) was 42.7. This implies that majority of academic staffs are at the peak of their profession with few active years to spend in the service of the organization. In addition, 110 respondents, 66(60%) were holders of Ph.D. degree, 32(29.1%) had master's degree or its equivalent, 10(9.1%) had bachelor's degree or its equivalents, while a total of 2(1.8%) gave no response. One can, therefore, infer that the sampled academic staffs is highly educated and qualified for the job. The demographic data about the respondents (academic staffs) are presented in Table 4.3.

Table 4.4 shows the distribution of the respondents (students) by selected demographic characteristics.

Table 4.4: Demographic data about the respondents (students)

Demographic characteristics	Frequency	Percentage (%)
Gender		
Male	656	64.8
Female	331	32.7
No response	26	2.6
Total	**1013**	**100**
Age		
<24 years	33	3.3
25-29 years	216	21.3
30-34 years	316	31.2
35-39 years	176	17.4
40-44 years	109	10.8
45-49 years	89	8.8
50 years and above	46	4.5
No response	28	2.8
Total	**1013**	**100**
Academic Class Level		
400 level	278	27.4

500 level	95	9.4
PGD	260	25.7
Masters	357	35.2
Ph.D.	3	0.3
No response	20	2
Total	**1013**	**100**

Table 4.4 reflects the demographical data of the respondents (students). The results showed that out of 1,013 respondents, 656 (64.8%) were males while 331 (32.7%) were female while a total of 26 (2.6%) gave no response. This showed that majority of them were males. The results also showed that of the 1,013 respondents, 316 (31.2%) were within 30-34 years age bracket. A total of 216 (21.3%) respondents were within 25-29 years age bracket; 176 (17.4%) were within 35-39 years age bracket; 109(10.8%) were within 40-44 years age bracket; 89 (8.8%) were within 45-49 years age bracket; 46 (4.5%) were 50 years and above age bracket; and 33 (3.3%) were 24 years and below age bracket, while a total of 28 (2.8%) gave no response. In addition, the mean age of the respondents (students) was 34.9. This implies that majority of students are working-class members of the society seeking to acquire more degrees for various personal or professional reasons. In addition, of the 1,013 respondents, 357 (35.2%) were master's students; 260 (25.7%) were PGD students;278 (27.4%) were 400 level students; 95 (9.4%) were 500 level students; 3 (0.3%) were Ph.D. students, while a total of 20 (2%) gave no response. One can, therefore, infer that the majority of the sampled students were postgraduate students. The demographic data about the respondents (students) are presented in Table 4.4.

4.4. Presentation of results

The findings are presented in this section based on the research questions stipulated in Chapter One.

4.4.1 Types of electronic resources available in NOUN

The academic librarians were asked to indicate the types of electronic resources available in NOUN library. Table 4.5 presents mean and standard deviation scores of electronic resources available in NOUN library.

Table 4.5: Mean and standard deviation scores of types of electronic resources available in NOUN

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean($\bar{x}$)	SD (s)
Electronic Journal	1 3.7%	-	1 3.7%	13 48.1%	12 44.4%	4.30	.87
Electronic Book	5 18.5%	-	1 3.7%	13 48.1%	8 29.6%	3.70	1.41
CD Databases	4 14.8%	-	3 11.1%	15 55.6%	5 18.5%	3.63	1.25
Electronic Magazine	3 11.1%	2 7.4%	7 25.9%	9 33.3%	6 22.2%	3.49	1.25
Electronic Newspaper	3 11.1%	3 11.1%	6 22.2%	8 29.6%	7 25.9%	3.49	1.31
Electronic Dictionary	3 11.1%	1 3.7%	8 29.6%	11 40.7%	4 14.8%	3.41	1.25
Electronic Thesis/Dissertation	5 18.5%	1 3.7%	6 22.2%	11 40.7%	4 14.8%	3.30	1.33
Institutional Repositories	7 25.9%	3 11.1%	2 7.4%	9 33.3%	6 22.2%	3.11	1.63
Indexing and Abstracting Databases	8 29.6%	1 3.7%	6 22.2%	9 33.3%	3 11.1%	2.93	1.44
Electronic Archives	9 33.3%	3 11.1%	7 25.9%	4 14.8%	4 14.8%	2.59	1.57
GRAND MEAN=3.2445							

The results in Table 4.5 above showed that electronic journal, ($\bar{x}$ =4.30, s=0.87) ranked highest by mean score and was followed by electronic book, ($\bar{x}$ =3.70, s=1.41); CD databases, ($\bar{x}$ =3.63, s=1.25); electronic magazine, ($\bar{x}$ =3.49, s=1.25); electronic newspaper ($\bar{x}$ =3.49, s=1.31); electronic dictionary ($\bar{x}$ =3.41, s=1.25); and electronic thesis/dissertation ($\bar{x}$ =3.30, s=1.33)

4.4.2 Awareness of academic staffs and students of the electronic resources available in NOUN library

The study sought to know how academic staffs and students got to know about the availability of electronic resources at NOUN Library. Table 4.6a presents mean and standard deviation scores of how the academic staffs of NOUN knew about the electronic resources available in NOUN library.

Table 4.6a: Mean and standard deviation scores of how academic staffs learned about the electronic resources available in NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Library Staff	10 9.1%	3 2.7%	9 8.2%	51 46.4%	37 33.6%	3.93	1.16
Personal Discovery	9 8.2%	15 13.6%	28 25.5%	42 38.2%	16 14.5%	3.37	1.14
Electronic Mail	18 16.4%	11 10.0%	30 27.3%	37 33.6%	14 12.7%	3.16	1.26
Electronic Library Webpage	22 20.0%	15 13.6%	32 29.1%	34 30.9%	7 6.4%	2.90	1.23
A Friend	21 19.1%	16 14.5%	42 38.2%	22 20.0%	9 8.2%	2.84	1.16
Other colleagues	26 23.6%	13 11.8%	41 37.3%	25 22.7%	5 4.5%	2.73	1.19
Library Social Media Tools (e.g. Facebook, Twitter, etc)	23 20.9%	15 13.6%	44 40.0%	25 22.7%	3 2.7%	2.73	1.12
Direct Mailing To Staff	28 25.5%	12 10.9%	52 47.3%	17 15.5%	1 .9%	2.55	1.06
Staff Orientation	34 30.9%	20 18.2%	44 40.0%	12 10.9%	- %	2.31	1.03
GRAND MEAN=2.77							

The results in Table 4.6a above showed that the academic staffs that participated in the study learnt about the available electronic resources in NOUN library through the library staff, ($\bar{x}$ =3.93, s=1.16); personal discovery ($\bar{x}$ =3.37, s=1.14); electronic mail ($\bar{x}$ =3.16, s=1.26); the electronic library webpage ($\bar{x}$ =2.90, s=1.23); and a friend ($\bar{x}$ =2.84, s=1.16).

Table 4.6b presents mean and standard deviation scores of how the National Open University Nigeria students learned about the availability of electronic resources in NOUN library.

Table 4.6b: Mean and standard deviation scores of how NOUN students learned about electronic resources availability

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A (4)**	**SA (5)**	**Mean ($\bar{x}$)**	**SD (s)**
Personal Discovery	171 16.9%	109 10.8%	110 10.9%	341 33.7%	282 27.8%	3.45	1.43
Through a Friend	256 25.3%	142 14.0%	217 21.4%	254 25.1%	144 14.2%	2.89	1.40
The Electronic Library Webpage	287 28.3%	132 13.0%	149 14.7%	297 29.3%	148 14.6%	2.89	1.46
Other Coursemates	283 27.9%	128 27.9%	168 16.6%	324 32.0%	324 32.0%	2.85	1.40
Student Orientation	285 28.1%	146 14.4%	145 14.3%	260 25.7%	177 17.5%	2.81	1.49
Electronic Mail	301 29.7%	148 14.6%	193 19.1%	289 28.5%	82 8.1%	2.71	1.36
Direct Mailing To Student	308 30.4%	173 17.1%	226 22.3%	191 18.9%	115 11.4%	2.64	1.38
Library Staff	267 26.4%	197 19.4%	285 28.1%	170 16.8%	94 9.3%	2.63	1.29
Social Media Tools (Facebook, Twitter)	327 32.3%	153 15.1%	239 23.6%	228 22.5%	66 6.5%	2.56	1.31

My Lecturers	319 31.5%	236 23.3%	268 26.5%	161 15.9%	29 2.9%	2.35	1.16
GRAND MEAN=2.64							

The items that best describe how the students learnt about available electronic resources in NOUN library as shown in Table 4.6b above, are personal discovery ($\bar{X}$ =3.45, s=1.43); through a friend ($\bar{X}$ =2.89, s=1.40); through electronic library web page ($\bar{X}$ =2.89, s=1.46); through course mate ($\bar{X}$ =2.85, s=1.40); and through student orientation programme ($\bar{X}$ =2.81, s=1.49).

The respondents were asked to rate the way they got to know about the availability of electronic resources in NOUN library. Table 4.7a presents mean and standard deviation scores of how the academic staffs of NOUN rated how they got to know about the availability of electronic resources in NOUN library.

Table 4.7a: Mean and standard deviation scores of how academic staffs rated how they got to know about the availability of electronic resources in NOUN library

ITEMS	**NE (1)**	**SE (2)**	**EF (3)**	**VE (4)**	**ME (5)**	**Mean ($\bar{X}$)**	**SD (s)**
From Library Staff	4 3.6%	10 9.1%	15 13.%	18 16.4%	63 57.3%	4.15	1.18
From Other Colleagues	7 6.4%	29 26.4%	27 24.5%	10 9.1%	37 33.6%	3.37	1.35
Through Electronic Mail	18 16.4%	22 20.0%	31 28.2%	10 9.1%	29 26.4%	3.09	1.42
Personal Discovery	16 14.5%	28 25.5%	30 27.3%	10 9.1%	26 23.6%	3.02	1.37
New Staff Orientation Programme	13 11.8%	34 30.9%	32 29.1%	7 6.4%	24 21.8%	2.95	1.31
Through Social Media Tools	19 17.3%	31 28.2%	26 23.6%	8 7.3%	26 23.6%	2.92	1.42

Direct Mailing To Staff	14 12.7%	37 33.6%	29 26.4%	5 4.5%	25 22.7%	2.91	1.34
From Friends	12 10.9%	33 30.0%	40 36.4%	5 4.5%	20 18.2%	2.89	1.23
Through The Electronic Library Webpage	21 19.1%	31 28.2%	29 26.4%	2 1.8%	27 24.5%	2.85	1.43
GRAND MEAN=2.9230							

The results in Table 4.7a above revealed how academic staffs rated how they got to know about the availability of electronic resources in NOUN library, which include; from library staff ($\bar{x}$ =4.15, s=1.13); from other colleagues ($\bar{x}$ =3.37, s=1.35); through electronic mail ($\bar{x}$ =3.09, s=1.42); personal discovery ($\bar{x}$ =3.02, s=1.37); and new staff orientation programme ($\bar{x}$ =2.95, s=1.31).

Table 4.7b presents mean and standard deviation scores of how the students of NOUN rated how they got to know about the availability of electronic resources in NOUN library.

Table 4.7b: Mean and standard deviation scores of how students rated how they got to know about the availability of electronic resources in NOUN library

ITEMS	**NE (1)**	**SE (2)**	**EF (3)**	**VE (4)**	**ME (5)**	**Mean ($\bar{x}$)**	**SD (s)**
From Other Coursemates	204 20.1%	143 14.1%	257 25.4%	141 13.9%	268 26.5%	3.12	1.46
From Friends	217 21.4%	155 15.3%	296 29.2%	108 10.7%	237 23.4%	2.99	1.43
New Students Orientation Programme	237 23.4%	141 13.9%	231 22.8%	199 19.6%	205 20.2%	2.99	1.44
Personal Discovery	252 24.9%	188 18.6%	240 23.7%	126 12.4%	207 20.4%	2.85	1.45

Through The Electronic Library Webpage	295 29.1%	176 17.4%	241 23.8%	98 9.7%	203 20.0%	2.74	1.47
Through Social Media Tools	313 30.9%	153 15.1%	255 25.2%	123 12.1%	169 16.7%	2.69	1.44
Through Electronic Mail	331 32.7%	142 14.0%	280 27.6%	91 9.0%	169 16.7%	2.62	1.44
Direct Mailing To Students	361 35.6%	144 14.2%	274 27.0%	98 9.7%	136 13.4%	2.51	1.40
From Library Staff	346 34.2%	247 24.4%	204 20.1%	70 6.9%	146 14.4%	2.43	1.39
From Lecturers	425 42.0%	223 22.0%	184 18.2%	73 7.2%	108 10.7%	2.22	1.34
GRAND MEAN=2.5845							

The results in Table 4.7b above showed how students rated how they got to know about the availability of electronic resources in NOUN library, which include; from other course mates ($\bar{x}$ =3.12, s=1.46); from friends ($\bar{x}$ =2.99, s=1.43); new students' orientation programme ($\bar{x}$ =2.99, s=1.44); personal discovery ($\bar{x}$ =2.85, s=1.45); and through the electronic library ($\bar{x}$ =2.74, s=1.47)

4.4.3 Tools used by NOUN library to create awareness

The respondents were asked to indicate the types of tools used in creating awareness on the availability of electronic resources in NOUN library. Table 4.8a presents mean and standard deviation scores of academic librarians' view on the tools used to create awareness on the availability of electronic resources in NOUN library.

Table 4.8a: Mean and standard deviation scores of the types of tools used in creating awareness on the availability of electronic resources in NOUN library as indicated by academic librarians

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean ($\bar{x}$)	SD (s)
Electronic Mail	2 7.4%	2 7.4%	2 7.4%	10 37.0%	11 40.7%	3.91	1.22
Notice Boards	3 11.1%	2 7.4%	1 3.7%	15 55.6%	6 22.2%	3.70	1.23
Texting (SMS)	3 11.1%	2 7.4%	5 18.5%	9 33.3%	8 29.6%	3.63	1.31
Instant Messaging	3 11.1%	2 7.4%	5 18.5%	10 37.0%	7 25.9%	3.59	1.28
Facebook	3 11.1%	2 7.4%	5 18.5%	11 40.7%	6 22.2%	3.56	1.26
Library handout	3 11.1%	4 14.8%	5 18.5%	9 33.3%	6 22.2%	3.40	1.30
Twitter	7 25.9%	2 7.4%	4 14.8%	8 29.6%	6 22.2%	3.15	1.54
Flyers	3 11.1%	6 22.2%	6 22.2%	10 37.0%	2 7.4%	3.07	1.17
Listserv	11 40.7%	4 14.8%	6 22.2%	5 18.5%	1 3.7%	2.20	1.20
GRAND MEAN=3.1840							

The results in Table 4.8a above indicated that NOUN library created awareness on the availability of electronic resources through electronic mail ($\bar{x}$ =3.91, s=1.22); notice boards ($\bar{x}$ =3.70, s=1.23); Texting (SMS) ($\bar{x}$ =3.63, s=1.31); instant messaging ($\bar{x}$ =3.59, s=1.28); Facebook ($\bar{x}$ =3.56, s=1.26); and library handout ($\bar{x}$ =3.40, s=1.30).

Table 4.8b presents mean and standard deviation scores of academic staffs view on the tools used to create awareness on the availability of electronic resources in NOUN library.

Table 4.8b: Mean and standard deviation scores of the types of tools used in creating awareness on the availability of electronic resources in NOUN library as indicated by academic staffs

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean ($\bar{X}$)	SD (s)
Notice Boards	7 6.4%	6 5.5%	16 14.5%	63 57.3%	18 16.4%	3.72	1.01
Twitter	38 34.5%	4 3.6%	11 10.0%	51 46.4%	6 5.5%	3.72	1.01
Electronic Mail	14 12.7%	4 3.6%	2 1.8%	73 66.4%	17 15.5%	3.68	1.17
Facebook	37 33.6%	6 5.5%	23 20.9%	36 32.7%	8 7.3%	3.68	1.17
Library handout	28 25.5%	4 3.6%	40 36.4%	31 28.2%	7 6.4%	2.86	1.26
Texting (SMS)	38 34.5%	9 8.2%	18 16.4%	36 32.7%	9 8.2%	2.72	1.43
Flyers	30 27.3%	7 6.4%	51 46.4%	16 14.5%	6 5.5%	2.65	1.19
Listserv	38 34.5%	7 6.4%	44 40.0%	17 15.5%	4 3.6%	2.47	1.22
Instant Messaging	49 44.5%	5 4.5%	18 16.4%	32 29.1%	6 5.5%	2.46	1.44
GRAND MEAN=2.9020							

The results in Table 4.8b above showed that NOUN library created awareness on the availability of electronic resources through notice boards ($\bar{X}$ =3.72, s=1.01); Twitter ($\bar{X}$ =3.72, s=1.01); electronic mail ($\bar{X}$ =3.68, s=1.17); and Facebook ($\bar{X}$ =3.68, s=1.17).

Table 4.8c presents mean and standard deviation scores of students' view on the tools used to create awareness on the availability of electronic resources in NOUN library.

Table 4.8c: Mean and standard deviation scores of the types of tools used in creating awareness on the availability of electronic resources in NOUN library as indicated by students

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean ($\bar{x}$)	SD (s)
Electronic Mail	246 24.3%	95 9.4%	94 9.3%	390 38.5%	188 18.6%	3.17	1.47
Notice Boards	244 24.1%	95 9.4%	115 11.4%	433 42.7%	126 12.4%	3.10	1.40
Texting (SMS)	339 33.5%	125 12.3%	155 15.3%	290 28.6%	104 10.3%	2.67	1.43
Library handout	396 39.1%	108 10.7%	146 14.4%	260 25.7%	103 10.2%	2.57	1.47
Facebook	403 39.8%	98 9.7%	135 13.3%	256 25.3%	121 11.9%	2.51	1.50
Instant Messaging	413 40.8%	119 11.7%	186 18.4%	199 19.6%	96 9.5%	2.45	1.42
Flyers	332 32.8%	208 20.5%	233 23.0%	176 17.4%	64 6.3%	2.43	1.28
Twitter	455 44.9%	115 11.4%	167 16.5%	197 19.4%	79 7.8%	2.34	1.41
Listserv	544 53.7%	133 13.1%	188 18.6%	110 10.9%	38 3.8%	1.98	1.22
GRAND MEAN=2.4510							

The results in Table 4.8c above indicated that NOUN library created awareness on the availability of electronic resources through electronic mail ($\bar{x}$ =3.17, s=1.47); notice boards ($\bar{x}$ =3.10,

s=1.40); Texting (SMS) ($\bar{x}$ =2.67, s=1.43); library handout ($\bar{x}$ =2.57, s=1.47); and Facebook ($\bar{x}$ =2.51, s=1.50).

The respondents were asked to indicate modern tools that can be employed to effectively create awareness on the availability of electronic resources in the library. Table 4.9a presents mean and standard deviation scores of academic librarians' opinion on the modern tools that can be used to create effective awareness on the availability of electronic resources in the library.

Table 4.9a: Mean and standard deviation scores of modern tools that can be employed to effectively create awareness on the availability of electronic resources in the library as indicated by academic librarians

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Email	-	-	1 3.7%	10 37.0%	16 59.3%	4.56	0.58
Facebook	-	-	1 3.7%	9 33.3%	17 63.0%	4.51	0.57
Texting (SMS)	-	-	2 7.4%	10 37.00%	15 55.6%	4.48	0.64
Instant Messaging	-	-	2 7.4%	12 44.4%	13 48.1%	4.41	0.64
Twitter	2 7.4%	-	1 3.7%	9 33.3%	15 55.6%	4.21	1.10
Blogs	4 14.8%	-	%	13 48.1%	10 37.0%	3.93	1.32
YouTube	6 22.2%	1 3.7%	1 3.7%	8 29.6%	11 40.7%	3.63	1.51
Flicker	8 29.6%	-	2 7.4%	6 22.2%	11 40.7%	3.44	1.72
Listserv	9	-	1	5	12	3.40	1.80

	33.3%		3.7%	18.5%	44.4%		
Myspace	8 29.6%	1 3.7%	3 11.1%	5 18.5%	10 37.0%	3.29	1.71
Ning	10 37.0%	3 11.1%	2 7.4%	4 14.8%	8 29.6%	2.89	1.73
GRAND MEAN=3.7350							

The results in Table 4.9a above showed that academic librarians were of the view that effective awareness on the availability of electronic resources in the library can be created through email ($\bar{x}$ =4.56, s=0.58); Facebook ($\bar{x}$ =4.51, s=0.57); Texting (SMS) ($\bar{x}$ =4.48, s=0.64); instant messaging ($\bar{x}$ =4.41, s=0.64); Twitter ($\bar{x}$ =4.21, s=1.10); and blogs ($\bar{x}$ =3.93, s=1.32).
Others specified by some academic librarians include WhatsApp; delicious, LinkedIn; and Pinterest.

Table 4.9b presents mean and standard deviation scores of academic staffs' opinion on the modern tools that can be used to create effective awareness on the availability of electronic resources in the library.

Table 4.9b: Mean and standard deviation scores of modern tools that can be employed to effectively create awareness on the availability of electronic resources in the library as indicated by academic staffs

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Email	1 .9%	- %	- %	51 46.4%	58 52.7%	4.50	0.60
Texting (SMS)	5 4.5%	1 .9%	4 3.6%	51 46.4%	49 44.5%	4.25	0.93
Facebook	6 5.5%	1 .9%	3 2.7%	64 58.2%	36 32.7%	4.12	0.94
Twitter	13	-	2	56	39	3.98	1.20

	11.8%	%	1.8%	50.9%	35.5%		
YouTube	13 11.8%	2 1.8%	- %	65 59.1%	30 27.3%	3.88	1.19
Instant Messaging	14 12.7%	1 .9%	10 9.1%	51 46.4%	34 30.9%	3.82	1.25
Blogs	14 12.7%	2 1.8%	6 5.5%	57 51.8%	31 28.2%	3.81	1.24
Flicker	28 25.5%	2 1.8%	6 5.5%	49 44.5%	25 22.7%	3.37	1.51
Myspace	31 28.2%	- %	8 7.3%	57 51.8%	14 12.7%	3.21	1.46
Listserv	39 35.5%	1 .9%	5 4.5%	47 42.7%	18 16.4%	3.04	1.59
Ning	45 40.9%	2 1.8%	6 5.5%	46 41.8%	11 10.0%	2.78	1.56
GRAND MEAN=3.4825							

The results in Table 4.9b above indicated that academic staffs were of the view that effective awareness on the availability of electronic resources in the library can be created through email ($\bar{X}$ =4.50, s=0.60); Texting (SMS) ($\bar{X}$ =4.25, s=0.93); Facebook ($\bar{X}$ =4.12, s=0.94); Twitter ($\bar{X}$ =3.98, s=1.20); YouTube ($\bar{X}$ =3.88, s=1.19); instant messaging ($\bar{X}$ =3.82, s=1.25); and blogs ($\bar{X}$ =3.81, s=1.24).

Table 4.9c presents mean and standard deviation scores of students' opinion on the modern tools that can be used to create effective awareness on the availability of electronic resources in the library.

Table 4.9c: Mean and standard deviation scores of modern tools that can be employed to effectively create awareness on the availability of electronic resources in the library as indicated by students

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Email	116 11.5%	21 2.1%	25 2.5%	351 34.6%	500 49.4%	4.08	1.12
Facebook	115 11.4%	35 3.5%	30 3.0%	389 38.4%	444 43.8%	3.91	1.28
Texting (SMS)	190 18.8%	20 2.0%	53 5.2%	370 36.5%	380 37.5%	3.72	1.46
Twitter	215 21.2%	33 3.3%	41 4.0%	387 38.2%	337 33.3%	3.59	1.45
Instant Messaging	257 25.4%	19 1.9%	59 5.8%	363 35.8%	315 31.1%	3.45	1.56
Blogs	297 29.3%	47 4.6%	49 4.8%	349 34.5%	271 26.8%	3.24	1.61
YouTube	309 30.5%	54 5.3%	76 7.5%	359 35.4%	215 21.2%	3.16	1.57
Flicker	391 38.6%	41 4.0%	93 9.2%	309 30.5%	179 17.7%	2.85	1.60
Listserv	468 46.2%	42 4.1%	79 7.8%	286 28.2%	138 13.6%	2.59	1.56
Myspace	462 45.6%	50 4.9%	96 9.5%	260 25.7%	145 14.3%	2.58	1.51
Ning	521 51.4%	60 5.9%	115 11.4%	225 22.2%	92 9.1%	2.32	1.41
GRAND MEAN=3.0675							

The results in Table 4.9c above showed that students were of the view that effective awareness on the availability of electronic resources in the library can be created through email ($\bar{x}$ =4.08,

s=1.12); Facebook ($\bar{x}$ =3.91, s=1.28); Texting (SMS) ($\bar{x}$ =3.72, s=1.46); Twitter ($\bar{x}$ =3.59, s=1.45); instant messaging ($\bar{x}$ =3.45, s=1.56); blogs ($\bar{x}$ =3.24, s=1.61); and YouTube ($\bar{x}$ =3.16 s=1.57). Others specified by some students include Instagram; WhatsApp; google Allo; Ads; and LinkedIn.

4.4.4 Types of electronic resources used by academic staffs and students at NOUN

The study sought to find out the electronic resources used by academic staffs and students of NOUN. Table 4.10a presents mean and standard deviation scores of the frequency of use of electronic resources by academic staffs of NOUN.

Table 4.10a: Mean and standard deviation scores of the frequency of use of electronic resources by academic staffs of NOUN

ITEMS	**R(1)**	**M(2)**	**OW(3)**	**TW(4)**	**DL(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Journal	7 6.4%	19 17.3%	34 30.9%	42 38.2%	8 7.3%	3.23	1.03
Electronic Book	11 10.0%	26 23.6%	32 29.1%	23 20.9%	18 16.4%	3.10	1.23
Electronic Newspaper	21 19.1%	18 16.4%	21 19.1%	36 32.7%	14 12.7%	3.04	1.33
Electronic Thesis/Dissertation	26 23.6%	34 30.9%	15 13.6%	4 3.6%	31 28.2%	2.82	1.55
Electronic Dictionary	24 21.8%	28 25.5%	28 25.5%	20 18.2%	10 9.1%	2.67	1.26
Indexing and Abstracting Databases	25 22.7%	29 26.4%	31 28.2%	8 7.3%	17 15.5%	2.66	1.33
Institutional Repositories	33 30.0%	23 20.9%	28 25.5%	4 3.6%	22 20.0%	2.63	1.46
Electronic Magazine	33	27	16	18	16	2.61	1.43

	30.0%	24.5%	14.5%	16.4%	14.5%		
CD Databases	42 38.2%	25 22.7%	16 14.5%	1 .9%	26 23.6%	2.49	1.57
Electronic Archives	37 33.6%	26 23.6%	29 264%	5 4.5%	13 11.8%	2.37	1.31
GRAND MEAN=2.6100							

The results in Table 4.10a above indicate that academic staffs used the following electronic resources frequently: electronic journal ($\bar{x}$ =3.23, s=1.03); electronic book ($\bar{x}$ =3.10, 1.23); electronic newspaper ($\bar{x}$ =3.04, s=1.33); electronic thesis/dissertation ($\bar{x}$ =2.82, s=1.55); and electronic dictionary ($\bar{x}$ =2.67, s=1.26).

Table 4.10b presents mean and standard deviation scores of the frequency of use of electronic resources by students of NOUN.

Table 4.10b: Mean and standard deviation scores of the frequency of use of electronic resources by students of NOUN

ITEMS	**R(1)**	**M(2)**	**OW(3)**	**TW(4)**	**DL(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Newspaper	327 32.3%	132 13.0%	120 11.8%	334 33.0%	100 9.9%	2.75	1.44
Electronic Book	286 28.2%	181 17.9%	191 18.9%	224 22.1%	131 12.9%	2.74	1.47
Electronic Journal	372 36.7%	138 13.6%	144 14.2%	212 20.9%	147 14.5%	2.63	1.50
Electronic Magazine	394 38.9%	120 11.8%	148 14.6%	230 22.7%	121 11.9%	2.57	1.49
Electronic Dictionary	394	123	155	225	116	2.55	1.47

	38.9%	12.1%	15.3%	22.2%	11.5%		
Electronic Thesis/Dissertation	493 48.7%	147 14.5%	101 10.0%	54 5.3%	218 21.5%	2.36	1.61
Electronic Archives	511 50.4%	142 14.0%	134 13.2%	62 6.1%	164 16.2%	2.24	1.51
Institutional Repositories	546 53.9%	121 11.9%	134 13.2%	61 6.0%	151 14.9%	2.17	1.49
Indexing and Abstracting Databases	556 54.9%	134 13.2%	109 10.8%	44 4.3%	170 16.8%	2.14	1.52
CD Databases	615 60.7%	109 10.8%	85 8.4%	39 3.8%	165 16.3%	2.04	1.52
GRAND MEAN=2.3045							

The results in Table 4.10b above showed that students used the following electronic resources frequently: electronic newspaper ($\bar{X}$ =2.75, s=1.44); electronic book ($\bar{X}$ =2.74, 1.47); electronic journal ($\bar{X}$ =2.63, s=1.50); electronic magazine ($\bar{X}$ =2.57, s=1.49); and electronic dictionary ($\bar{X}$ =2.55, s=1.47).

The academic staffs and students were asked to indicate how often they make use of electronic resources in the library for varied purposes. Table 4.11a presents mean and standard deviation scores of academic staffs' usage of the electronic resources in the library for different purposes.

Table 4.11a: Mean and standard deviation scores of academic staffs' usage of the electronic resources in library for different purposes

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF(4)**	**MO(5)**	**Mean ($\bar{X}$)**	**SD (s)**
For Further Studying On Subject Of Interest	3 2.7%	1 .9%	10 9.1%	53 48.2%	43 39.1%	4.20	0.85
For Publications	3 2.7%	2 1.8%	19 17.3%	40 36.4%	46 41.8%	4.13	0.95
For Information Retrival	2	1	19	55	33	4.05	0.82

	1.8%	.9%	17.3%	50.0%	30.0%		
For Preparation Of Workshop/Seminar Paper	5 4.5%	4 3.6%	29 26.4%	37 33.6%	35 31.8%	3.85	1.06
For Writing Of Thesis/Dissertation	5 4.5%	28 25.5%	29 26.4%	30 27.3%	18 16.4%	3.25	1.14
For Writing Term Paper And Coursework Assignment	15 13.6%	30 27.3%	27 24.5%	21 19.1%	17 15.5%	2.95	1.28
For Recreation	14 12.7%	24 21.8%	53 48.2%	13 11.8%	6 5.5%	2.75	1.00
GRAND MEAN=2.9318							

The results in Table 4.11a above indicated that academic staffs often make use of library electronic resources for further studying on subject of interest ($\bar{X}$ =4.20, s=0.85); for publications ($\bar{X}$ =4.13, 0.95); for information retrieval ($\bar{X}$ =4.05, s=0.82); for preparation of workshop/seminar paper ($\bar{X}$ =3.85, s=1.06); and for writing of thesis/dissertation ($\bar{X}$ =3.25, s=1.24).

Table 4.11b presents mean and standard deviation scores of students' usage of the electronic resources in the library for different purposes.

Table 4.11b: Mean and standard deviation scores of students' usage of the electronic resources in library for different purposes

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF(4)**	**MO(5)**	**Mean ($\bar{X}$)**	**SD (s)**
For Further Studying On Subject Of Interest	126 12.4 %	34 3.4%	123 12.1%	380 37.5%	350 34.6%	3.79	1.29
For Information Retrival	133 13.1 %	64 6.3%	148 14.6%	367 36.2%	301 29.7%	3.63	1.32

For Writing Term Paper And Coursework Assignment	135 13.3 %	60 5.9%	223 22.0%	340 33.6%	255 25.2%	3.51	1.29
For Writing Of Thesis/Dissertation	199 19.6 %	101 10.1%	294 29.0%	240 23.7%	179 17.7%	3.00	1.37
For Preparation Of Workshop/Seminar Paper	236 23.3 %	142 14.2%	260 25.7%	235 23.2%	140 13.8%	2.90	1.36
For Recreation	227 22.4 %	138 13.6%	310 30.6%	212 20.9%	126 12.4%	2.87	1.31
For Publications	370 36.5 %	200 19.7%	179 17.7%	160 15.8%	104 10.3%	2.44	1.38
GRAND MEAN=2.9225							

The results in Table 4.11b above showed that students often make use of library electronic resources for further studying on subject of interest ($\bar{X}$ =3.79, s=1.29); for information retrieval ($\bar{X}$ =3.63, 1.32); for writing term paper and coursework assignment ($\bar{X}$ =3.51, s=1.29); for writing of thesis/dissertation ($\bar{X}$ =3.00, s=1.37); and for preparation of workshop/seminar paper ($\bar{X}$ =2.90, s=1.36).

The respondents were asked to indicate their extent of agreement regarding the motivating factors for the usage of electronic resources. Table 4.12a presents mean and standard deviation scores of academic librarians' extent of agreement regarding the motivating factors for library users' usage of electronic resources.

Table 4.12a: Mean and standard deviation scores of academic librarians' extent of agreement regarding the motivating factors for library users' usage of electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{X}$)	SD (s)
Up To Date Information	1 3.7%	-	1 3.7%	12 44.4%	13 48.1%	4.33	0.88
Availability Of Relevant Information	1 3.7%	-	-	14 51.9%	12 44.4%	4.33	0.83
For Research Work	2 7.4%	-	-	10 37.0%	15 55.6%	4.33	1.07
Ease Of Use	1 3.7%	-	1 3.7%	11 40.7%	14 51.9%	4.31	0.88
Speed Of Information	1 3.7%	-	1 3.7%	16 59.3%	9 33.3%	4.18	0.83
For Information Retrival	2 7.4%	-	-	15 55.6%	10 37.0%	4.12	1.02
Ability To Download Fulltext	2 7.4%	-	2 7.4%	13 48.1%	10 37.0%	4.07	1.07
For Recreation	8 29.6%	2 7.4%	1 3.7%	8 29.6%	8 29.6%	3.22	1.67
GRAND MEAN=3.7656							

The items that best describe the motivating factors for library users' usage of electronic resources as shown in Table 4.12a above are, up to date information ($\bar{X}$ =4.33, s=0.88); availability of relevant information ($\bar{X}$ =4.33, s=0.83); for research work ($\bar{X}$ =4.33, s=1.07); ease of use ($\bar{X}$ =4.31, s=0.88); and speed of information ($\bar{X}$ =4.18, s=0.83).

Table 4.12b presents mean and standard deviation scores of academic staffs' extent of agreement regarding the motivating factors for the usage of electronic resources.

Table 4.12b: Mean and standard deviation scores of academic staffs' extent of agreement regarding the motivating factors for the usage of electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{X}$)	SD (s)
For Research Work	5 4.5%	- %	- %	35 31.8%	70 63.6%	4.50	0.89
Availability Of Relevant Information	3 2.7%	- %	- %	54 49.1%	53 48.2%	4.40	0.76
Up To Date Information	4 3.6%	- %	- %	54 49.1%	52 47.3%	4.36	0.82
For Information Retrival	3 2.7%	- %	- %	70 63.6%	37 33.6%	4.25	0.72
Ability To Download Fulltext	5 4.5%	- %	10 9.1%	46 41.8%	49 44.5%	4.23	0.95
Ease Of Use	6 5.5%	4 3.6%	4 3.6%	49 44.5%	47 42.7%	4.15	1.04
Speed Of Information	8 7.3%	2 1.8%	6 5.5%	60 54.5%	34 30.9%	4.00	1.05
For Recreation	27 24.5%	7 6.4%	15 13.6%	37 33.6%	24 21.8%	3.22	1.49
GRAND MEAN=3.4264							

The results in Table 4.12b above indicated that the motivating factors for academic staffs' usage of electronic resources are for research work ($\bar{X}$ =4.50, s=0.89); availability of relevant information ($\bar{X}$ =4.40, s=0.76); up to date information ($\bar{X}$ =4.36, s=0.82); for information retrieval ($\bar{X}$ =4.25, s=0.82); and ability to download full text ($\bar{X}$ =4.23, s=0.95).

Table 4.12c presents mean and standard deviation scores of students' extent of agreement regarding the motivating factors for the usage of electronic resources.

Table 4.12c: Mean and standard deviation scores of students' extent of agreement regarding the motivating factors for the usage of electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Ease Of Use	128 12.6%	26 2.6%	24 2.4%	450 44.4%	385 38.0%	3.93	1.28
Availability Of Relevant Information	150 14.8%	13 1.3%	16 1.6%	437 43.1%	397 39.2%	3.91	1.34
Speed Of Information	166 16.4%	9 .9%	34 3.4%	412 40.7%	392 38.7%	3.84	1.38
Up To Date Information	172 17.0%	14 1.4%	22 2.2%	411 40.6%	394 38.9%	3.83	1.40
For Research Work	181 17.9%	14 1.4%	15 1.5%	390 38.5%	413 40.8%	3.83	1.43
Ability To Download Fulltext	169 16.7%	14 1.4%	59 5.8%	387 38.2%	384 37.9%	3.79	1.30
For Information Retrival	166 16.4%	12 1.2%	14 1.4%	499 49.3%	322 31.8%	3.79	1.36
For Recreation	377 37.2%	49 4.8%	94 9.3%	321 31.7%	172 17.2%	2.86	1.59
GRAND MEAN=3.4478							

The results in Table 4.12c above showed that the motivating factors for students' usage of electronic resources are ease of use ($\bar{x}$ =3.93, s=1.28); availability of relevant information ($\bar{x}$ =3.91, s=1.34); speed of information ($\bar{x}$ =3.84, s=1.38); up to date information ($\bar{x}$ =3.83, s=1.40); and for research work ($\bar{x}$ =3.83, s=1.43).

The academic staffs and students were asked to indicate why they do not make use of library electronic resources. Table 4.13a presents mean and standard deviation scores of academic staffs' reasons for not using library electronic resources.

Table 4.13a: Mean and standard deviation scores of academic staffs' reasons for not using library electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
I do not find them useful	1 .9%	55 50.0%	44 40.0%	9 8.2%	1 .9%	2.58	0.70
I do not know where to find them	6 5.5%	56 50.9%	37 33.6%	9 8.2%	2 1.8%	2.50	0.80
I do not have interest in them	4 3.6%	55 50.0%	44 40.0%	6 5.5%	1 .9%	2.50	0.70
I do not know how to use them	3 2.7%	54 49.1%	49 44.5%	4 3.6%	- %	2.49	0.62
I do not know they exist	4 3.6%	62 56.4%	40 36.4%	4 3.6%	- %	2.40	0.62
GRAND MEAN=2.3027							

The items that best describe why academic staffs do not make use of library electronic resources as shown in Table 4.13a above are, I do not find them useful ($\bar{x}$ =2.58, s=0.70); I do not know where to find them ($\bar{x}$ =2.50, s=0.80); I do not have interest in them ($\bar{x}$ =2.50, s=0.70); and I do not know how to use them ($\bar{x}$ =2.49, s=0.62).

Table 4.13b presents mean and standard deviation scores of students' reasons for not using library electronic resources.

Table 4.13b: Mean and standard deviation scores of students' reasons for not using library electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
I do not know how to use them	176 17.4%	432 42.6%	307 30.3%	62 6.1%	36 3.6%	2.36	0.96

I do not know where to find them	162 16.0%	464 45.8%	297 29.3%	54 5.3%	36 3.6%	2.35	0.93
I do not know they exist	180 17.8%	477 47.1%	311 30.7%	33 3.3%	12 1.2%	2.23	0.82
I do not find them useful	195 19.2%	446 44.0%	330 32.6%	30 3.0%	12 1.2%	2.22	0.83
I do not have interest in them	194 19.2%	465 45.9%	319 31.5%	21 2.1%	14 1.4%	2.21	0.82
GRAND MEAN=2.1017							

The results in Table 4.13b above indicated that students do not make use of library electronic resources due to reasons such as, I do not know how to use them ($\bar{x}$ =2.36, s=0.96); I do not know where to find them ($\bar{x}$ =2.35, s=0.93); I do not know they exist ($\bar{x}$ =2.23, s=0.82); and I do not find them useful ($\bar{x}$ =2.22, s=0.83).

The respondents were asked to indicate how they learned to use electronic resources. Table 4.14a presents mean and standard deviation scores of how the library organizes electronic resources training for library users as indicated by academic librarians.

Table 4.14a: Mean and standard deviation scores of how the library organize electronic resources training for library users

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
New Intake Orientation Programme	2 7.4%	 %	1 3.7%	15 55.6%	9 33.3%	4.07	1.04
Seminars	4 14.8%	2 7.4%	5 18.5%	8 29.6%	8 29.6%	3.52	1.31
Workshops	4 14.8%	2 7.4%	5 15.8%	9 33.3%	7 25.9%	3.48	1.37
Library Week	4	2	7	7	7	3.41	1.37

	14.8%	7.4%	25.9%	25.9%	25.9%		
Library Handbook	5 18.5%	3 11.1%	3 11.1%	10 37.0%	6 22.2%	3.33	1.44
Online Library Tours	4 14.8%	3 11.1%	5 18.5%	12 44.4%	3 11.1%	3.26	1.26
Information Literacy Course	6 22.2%	3 11.1%	3 11.1%	10 37.0%	5 18.5%	3.19	1.45
GRAND MEAN=3.1900							

The items that best describe how the library organize electronic resources training for library users as shown in Table 4.14a above are, through new intake orientation programme ($\bar{x}$ =4.07, s=1.04); seminars ($\bar{x}$ =3.52, s=1.31); workshops ($\bar{x}$ =3.48, s=1.37); library week ($\bar{x}$ =3.41, s=1.37); and library handbook ($\bar{x}$ =3.33, s=1.44).

Table 4.14b presents mean and standard deviation scores of how academic staffs learned the use of electronic resources.

Table 4.14b: Mean and standard deviation scores of how academic staffs learned the use of electronic resources

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Self Study	6 5.5%	3 2.7%	10 9.1%	68 61.8%	23 20.9%	3.90	0.95
Workshops	22 20.0%	4 3.6%	15 13.6%	58 52.7%	11 10.0%	3.29	1.30
Online Library Tours	18 16.4%	7 6.4%	20 18.2%	58 52.7%	7 6.4%	3.26	1.20
Friends and Colleagues	17 15.5%	12 10.9%	22 20.0%	56 50.9%	3 2.7%	3.15	1.16
Seminars	23	10	21	43	13	3.12	1.34

	20.9%	9.1%	19.1%	39.1%	11.8%		
Information Literacy Course	25 22.7%	13 11.8%	36 32.7%	31 28.2%	5 4.5%	2.80	1.21
New Intake Orientation Programme	26 23.6%	13 11.8%	48 43.6%	17 15.5%	6 5.5%	2.67	1.16
Library Handbook	32 29.1%	16 14.5%	45 40.9%	11 10.0%	6 5.5%	2.48	1.17
Library Week	36 32.7%	16 14.5%	50 45.5%	4 3.6%	4 3.6%	2.31	1.08
GRAND MEAN=2.6436							

The results in Table 4.14b above showed that academic staffs learnt how to use electronic resources through, self-study ($\bar{x}$ =3.90, s=0.95); workshops ($\bar{x}$ =3.29, s=1.30); online library tours ($\bar{x}$ =3.26, s=1.20); friends and colleagues ($\bar{x}$ =3.15, s=1.16); and seminars ($\bar{x}$ =3.12, s=1.34).
Table 4.14c presents mean and standard deviation scores of how students learned the use of electronic resources.

Table 4.14c: Mean and standard deviation scores of how students learned the use of electronic resources

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Self Study	109 10.8%	29 2.9%	38 3.8%	404 39.9%	433 42.7%	4.00	1.25
Friends and Colleagues	228 22.5%	70 6.9%	144 14.2%	411 4.06%	160 15.8%	3.20	1.40
Online Library Tours	306 30.2%	109 10.8%	172 17.0%	340 33.4%	86 8.5%	2.79	1.30
Information Literacy Course	306 30.2%	117 11.5%	213 21.0%	373 26.9%	104 10.3%	2.76	1.31

New Intake Orientation Programme	313 30.9%	134 13.2%	202 19.9%	263 26.0%	101 10.0%	2.71	1.39
Workshops	310 30.6%	114 11.3%	230 22.7%	283 27.9%	76 7.5%	2.70	1.35
Seminars	317 31.3%	122 12.0%	211 20.8%	277 27.3%	86 8.5%	2.60	1.38
Library Handbook	367 36.2%	127 12.5%	245 24.2%	208 20.5%	66 6.5%	2.49	1.33
Library Week	376 37.1%	164 16.2%	325 32.1%	126 12.4%	22 2.2%	2.26	1.15
GRAND MEAN=2.6720							

The results in Table 4.14c above indicated that students learnt how to use electronic resources through, self-study ($\bar{X}$ =4.00, s=1.25); friends and colleagues ($\bar{X}$ =3.20, s=1.40); online library tours ($\bar{X}$ =2.79, s=1.30); information literacy course ($\bar{X}$ =2.76, s=1.31); and new intake orientation programme ($\bar{X}$ =2.71, s=1.39).

4.4.5 How academic staffs and students access electronic resources at NOUN

The study sought to find out how academic staffs and students access electronic resources at NOUN. Table 4.15a presents mean and standard deviation scores of the devices employed by library users to access electronic resources at NOUN as indicated by academic librarians.

Table 4.15a: Mean and standard deviation scores of the devices employed by library users to access electronic resources at NOUN as indicated by academic librarians

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{X}$)**	**SD (s)**
Center Library Computer	1 3.7%	 %	2 7.4%	8 29.6%	16 59.3%	4.40	0.93

Personal Computer	1 3.7%	1 3.7%	1 3.7%	9 33.3%	15 55.6%	4.33	1.00
Mobile Phone	2 7.4%	 %	2 7.4%	14 51.9%	9 33.3%	4.04	1.06
Tablet	3 11.1%	 %	1 3.7%	14 51.9%	9 33.3%	3.96	1.19
GRAND MEAN=3.5980							

The results in Table 4.15a above, as indicated by academic librarians, showed that library users accessed electronic resources through center library computer ($\bar{x}$ =4.40, s=0.93); a personal computer ($\bar{x}$ =4.33, s=1.00); mobile phone ($\bar{x}$ =4.04, s=1.06); and tablet ($\bar{x}$ =3.96, s=1.19).

Table 4.15b presents mean and standard deviation scores of the devices employed by academic staffs to access electronic resources at NOUN.

Table 4.15b: Mean and standard deviation scores of the devices employed by academic staffs to access electronic resources at NOUN

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{x}$)**	**SD (s)**
Personal Computer	1 .9%	- %	2 1.8%	45 40.9%	42 56.4%	4.52	0.63
Tablet	11 10.0%	20 18.2%	25 22.7%	36 32.7%	18 16.4%	3.27	1.23
Mobile Phone	11 10.0%	32 29.1%	25 22.7%	30 27.3%	12 10.9%	3.00	1.19
Center Library Computer	23 20.9%	39 35.5%	31 28.2%	9 8.2%	8 7.3%	2.45	1.13
GRAND MEAN=2.8680							

The results in Table 4.15b above indicated that academic staffs accessed electronic resources through a personal computer ($\bar{X}$ =4.52, s=0.63); tablet ($\bar{X}$ =3.27, s=1.23); and mobile phone ($\bar{X}$ =3.00, s=1.19).

Table 4.15c presents mean and standard deviation scores of the devices employed by students to access electronic resources at NOUN.

Table 4.15c: Mean and standard deviation scores of the devices employed by students to access electronic resources at NOUN

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{X}$)**	**SD (s)**
	(1)	(2)	(3)	(4)	(5)		
Personal Computer	100 9.9%	31 3.1%	145 14.3%	294 29.0%	443 43.7%	3.94	1.26
Mobile Phone	158 15.6%	64 6.3%	166 16.4%	295 29.1%	330 32.6%	3.56	1.40
Tablet	339 33.5%	118 11.6%	207 20.4%	209 20.6%	140 13.8%	2.69	1.45
Center Library Computer	572 56.5%	199 19.6%	156 15.4%	54 5.3%	32 3.2%	1.79	1.08
GRAND MEAN=2.6340							

The results in Table 4.15c above showed that students accessed electronic resources through a personal computer ($\bar{X}$ =3.94, s=1.26); mobile phone ($\bar{X}$ =3.56, s=1.40); and tablet ($\bar{X}$ =2.69, s=1.45).

The academic staffs and students were asked to indicate how easy it is for them to access electronic resources at NOUN. Table 4.16a presents mean and standard deviation scores of the ease at which electronic resources were accessed by academic staffs at NOUN.

Table 4.16a: Mean and standard deviation scores of the ease at which electronic resources were accessed by academic staffs at NOUN

ITEMS	VD(1)	DF(2)	UD(3)	E (4)	VE (5)	Mean ($\bar{x}$)	SD (s)
Electronic Newspaper	6 5.5%	8 7.3%	- %	61 55.5%	35 31.8%	4.00	1.05
Electronic Journal	3 2.7%	12 10.9%	6 5.5%	52 47.3%	37 33.6%	3.98	1.04
Electronic Dictionary	15 13.6%	8 7.3%	- %	66 60.0%	21 19.1%	3.64	1.26
Electronic Magazine	15 13.6%	10 9.1%	- %	63 57.3%	22 20.0%	3.61	1.29
Electronic Book	11 10.0%	22 20.0%	8 7.3%	48 43.6%	21 19.1%	3.42	1.28
Indexing and Abstracting Databases	25 22.7%	8 7.3%	1 .9%	65 59.1%	11 10.0%	3.26	1.39
Institutional Repositories	19 17.3%	22 20.0%	6 5.5%	47 42.7%	16 14.5%	3.17	1.37
Electronic Thesis/Dissertation	14 12.7%	32 29.1%	6 5.5%	47 42.7%	11 10.0%	3.08	1.28
Electronic Archives	23 20.9%	20 18.2%	4 3.6%	54 49.1%	9 8.2%	3.05	1.36
CD Databases	45 40.9%	15 13.6%	2 1.8%	40 36.4%	8 7.3%	2.55	1.50
GRAND MEAN=3.1645							

The results in Table 4.16a above indicated that academic staffs had easy access to electronic newspaper ($\bar{x}$ =4.00, s=1.05); electronic journal ($\bar{x}$ =3.98, s=1.04); electronic dictionary ($\bar{x}$ =3.64, s=1.26); electronic magazine ($\bar{x}$ =3.61, s=1.29); and electronic book ($\bar{x}$ =3.42, s=1.28).

Table 4.16b presents mean and standard deviation scores of the ease at which electronic resources were accessed by students at NOUN.

Table 4.16b: Mean and standard deviation scores of the ease at which electronic resources were accessed by students at NOUN

ITEMS	VD(1)	DF(2)	UD(3)	E (4)	VE (5)	Mean ($\bar{X}$)	SD (s)
Electronic Book	167 16.5%	104 10.3%	57 5.6%	408 40.3%	277 27.3%	3.52	1.41
Electronic Dictionary	284 28.0%	75 7.4%	552 5.1%	395 39.0%	207 20.4%	3.16	1.54
Electronic Newspaper	290 28.6%	91 9.0%	52 5.1%	366 36.1%	214 21.1%	3.12	1.56
Electronic Magazine	299 29.5%	106 10.5%	56 5.5%	363 35.8%	189 18.7%	3.04	1.55
Electronic Thesis/Dissertation	275 27.1%	149 14.7%	70 6.9%	366 36.1%	153 15.1%	2.97	1.48
Electronic Archives	338 33.4%	125 12.3%	64 6.3%	381 37.6%	105 10.4%	2.79	1.49
Institutional Repositories	349 34.5%	157 15.5%	51 5.0%	334 33.0%	122 12.0%	2.73	1.51
Indexing and Abstracting Databases	414 40.9%	154 15.2%	67 6.6%	287 28.3%	91 9.0%	2.49	1.54
CD Databases	463 45.7%	179 17.7%	93 9.2%	197 19.4%	81 8.0%	2.26	1.40
Electronic Journal	188 18.6%	121 11.9%	83 8.2%	391 38.6%	230 22.7%	1.26	.76
GRAND MEAN=2.5991							

The results in Table 4.16b above showed that students had easy access to electronic book ($\bar{X}$ =3.52, s=1.41); electronic dictionary ($\bar{X}$ =3.16, s=1.54); electronic newspaper ($\bar{X}$ =3.12, s=1.56); electronic magazine ($\bar{X}$ =3.04, s=1.55); and electronic thesis/dissertation ($\bar{X}$ =2.97, s=1.48).

The academic staffs and students were asked to indicate the level of access to electronic resources available at NOUN. Table 4.17a presents mean and standard deviation scores of the level of access to electronic resources available to academic staffs and students at NOUN as indicated by academic librarians.

Table 4.17a: Mean and standard deviation scores of the level of access to electronic resources available to academic staffs and students at NOUN as indicated by academic librarians

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{X}$)**	**SD (s)**
Full Text	2 7.4%	%	2 7.4%	13 48.1 %	10 37.0%	4.01	1.11
Bibliographic (Title, Author, Place, Year) Information	4 14.8%	%	4 14.8%	9 33.3 %	10 37.0%	3.78	1.37
Abstract Only	6 22.2%	2 7.4%	8 29.6%	7 25.9 %	4 14.8%	3.04	1.37
GRAND MEAN=3.6100							

The results in Table 4.17a above showed that the level of access to electronic resources available to academic staffs and students at NOUN as indicated by academic librarians are full text ($\bar{X}$ =4.01, s=1.11); and bibliographic (title, author, place, year) Information ($\bar{X}$ =3.78, s=1.37).

Table 4.17b presents mean and standard deviation scores of the level of access to electronic resources available to academic staffs at NOUN.

Table 4.17b: Mean and standard deviation scores of the level of access to electronic resources available to academic staffs at NOUN

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Full Text	3 2.7%	1 .%	1 0.9%	55 50.%	50 45.5%	4.35	0.79
Bibliographic (Title, Author, Place, Year) Information	7 6.4%	- %	1 0.9%	74 67.%	28 25.5%	4.05	0.92
Abstract Only	8 7.3%	20 18.2%	40 36.4%	32 29.%	10 9.1%	3.15	1.06
GRAND MEAN=3.8500							

The results in Table 4.17b above indicated that the level of access to electronic resources available to academic staffs at NOUN is full text ($\bar{x}$ =4.35, s=0.79); and bibliographic (title, author, place, year) Information ($\bar{x}$ =4.05, s=0.92).

Table 4.17c presents mean and standard deviation scores of the level of access to electronic resources available to students at NOUN.

Table 4.17c: Mean and standard deviation scores of the level of access to electronic resources available to students at NOUN

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Full Text	188 18.6%	42 4.1%	52 5.1%	418 41.3%	 %	3.61	1.43
Bibliographic (Title, Author, Place, Year) Information	268 26.5%	51 5.0%	63 6.2%	435 42.9%	196 19.3%	3.24	1.50
Abstract Only	378	122	260	188	65	2.45	1.32

	37.3%	12.0%	25.7%	18.6%	6.4%		
GRAND MEAN=3.1000							

The results in Table 4.17c above showed that the level of access to electronic resources available to students at NOUN is full text ($\bar{x}$ =3.61, s=1.43); and bibliographic (title, author, place, year) Information ($\bar{x}$ =3.24, s=1.50).

The academic staffs and students were asked to indicate why they do not access electronic resources available at NOUN library. Table 4.18a presents mean and standard deviation scores of academic staffs' reasons for not accessing electronic resources available at NOUN library.

Table 4.18a: Mean and standard deviation scores of academic staffs' reasons for not accessing electronic resources available at NOUN library

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
I do not know they exist	2 1.8%	35 31.8%	57 51.8%	10 9.1%	6 5.5%	2.85	0.83
I do not know how to access them	3 2.7%	34 30.9%	58 52.7%	10 9.1%	5 4.5%	2.82	0.81
I do not have internet access	1 .9%	38 34.5%	57 51.8%	13 11.8%	1 .9%	2.77	0.69
I do not have a computer to access them	1 .9%	44 40.0%	54 49.1%	10 9.1%	1 .9%	2.69	0.69
I do not have interest in them	6 5.5%	46 41.8%	53 48.2%	2 1.8%	3 2.7%	2.55	0.75
GRAND MEAN=2.4550							

The items that best describe why academic staffs do not access electronic resources available at NOUN library as shown in Table 4.18a above are I do not know they exist ($\bar{x}$ =2.85, s=0.83); and I do not know how to access them ($\bar{x}$ =2.82, s=0.81).

Table 4.18b presents mean and standard deviation scores of students' reasons for not accessing electronic resources available at NOUN library.

Table 4.18b: Mean and standard deviation scores of students' reasons for not accessing electronic resources available at NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
I do not know they exist	153 15.1%	301 29.7%	357 35.2%	137 13.5 %	65 6.4%	2.67	1.08
I do not know how to access them	181 17.9%	294 29.0%	361 35.6%	132 13.0 %	45 4.4%	2.57	1.06
I do not have internet access	164 16.2%	353 34.8%	328 32.4%	139 13.7 %	29 2.9%	2.52	1.01
I do not have a computer to access them	173 17.1%	383 37.8%	307 30.3%	114 11.3 %	36 3.6%	2.46	1.01
I do not have interest in them	193 19.1%	436 43.0%	340 33.6%	35 3.5%	9 .9%	2.24	.83
GRAND MEAN=2.2867							

The results in Table 4.18b above showed that students do not access electronic resources available at NOUN library for reasons such as, I do not know they exist ($\bar{x}$ =2.67, s=1.08); and I do not know how to access them ($\bar{x}$ =2.57, s=1.06).

The academic librarians were asked to indicate the electronic resources library users have access to in NOUN library. Table 4.19 presents mean and standard deviation scores of the electronic resources library users have access to in NOUN library as indicated by academic librarians.

Table 4.19: Mean and standard deviation scores of the electronic resources library users have access to in NOUN library as indicated by academic librarians

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Electronic Journal	%	%	3 11.1%	12 44.4%	12 44.4%	4.33	0.68
Electronic Book	2 7.4%	1 3.7%	4 14.8%	13 48.1%	7 25.9%	3.82	1.11
Electronic Dictionary	3 11.1%	1 3.7%	7 25.9%	11 40.7%	5 18.5%	3.51	1.19
Electronic Magazine	3 11.1%	3 11.1%	5 18.5%	10 37.0%	6 22.2%	3.48	1.28
Electronic Thesis/Dissertation	3 11.1%	1 3.7%	11 40.7%	7 25.9%	5 15.8%	3.37	1.18
Electronic Newspaper	3 11.1%	4 14.8%	6 22.2%	10 37.0%	4 14.8%	3.29	1.25
CD Databases	8 29.6%	2 7.4%	4 14.8%	7 25.9%	6 22.2%	3.03	1.51
Institutional Repositories	9 33.3%	1 3.7%	5 18.5%	7 25.9%	5 18.5%	2.92	1.57
Indexing and Abstracting Databases	7 25.9%	3 11.1%	9 33.3%	7 25.9%	1 3.7%	2.70	1.24
Electronic Archives	11 40.7%	4 14.8%	5 18.5%	6 22.2%	1 3.7%	2.33	1.33
GRAND MEAN=3.1145							

The results in Table 4.19 above indicated that library users have access to electronic journal ($\bar{x}$ =4.33, s=0.68); electronic book ($\bar{x}$ =3.82, s=1.11); electronic dictionary ($\bar{x}$ =3.51, s=1.19); electronic magazine ($\bar{x}$ =3.48, s=1.28); and electronic thesis/dissertation ($\bar{x}$ =3.37, s=1.18).

Others specified by some academic librarian include electronic past questions; and electronic courseware.

4.4.6 Frequency with which students and academic staff access electronic resources available in NOUN

The study sought to know how often academic staffs and students access electronic resources in NOUN library do. Table 4.20a presents mean and standard deviation scores of how often academic staffs access electronic resources at NOUN library.

Table 4.20a: Mean and standard deviation scores of how often academic staffs access electronic resources at NOUN library

ITEMS	N(1)	R(2)	OC(3)	OF (4)	MO (5)	Mean ($\bar{x}$)	SD (s)
Electronic Journal	- %	3 2.7%	5 4.5%	53 48.2%	49 44.5%	4.35	0.70
Electronic Book	4 3.6%	4 3.6%	21 19.1%	45 40.9%	36 32.7%	3.95	1.00
Electronic Dictionary	6 5.5%	10 9.1%	32 29.1%	40 36.4%	22 20.0%	3.56	1.08
Electronic Newspaper	3 2.7%	17 15.5%	30 27.3%	44 40.0%	16 14.5%	3.48	1.01
Institutional Repositories	4 3.6%	20 18.2%	33 30.0%	43 39.1%	10 9.1%	3.31	0.99
Electronic Thesis/Dissertation	3 2.7%	18 16.4%	49 44.5%	29 26.4%	11 10.0%	3.25	0.94
Indexing and Abstracting Databases	13 11.8%	15 13.6%	37 33.6%	38 34.5%	7 6.4%	3.10	1.10
Electronic Magazine	6 5.5%	27 24.5%	43 39.1%	22 20.0%	12 10.9%	3.06	1.05
Electronic Archives	8	30	42	23	7	2.92	1.01

	7.3%	27.3%	38.2%	20.9%	6.4%		
CD Databases	17 15.5%	31 28.2%	39 35.5%	19 17.3%	4 3.6%	2.65	1.05
GRAND MEAN=3.1591							

The results in Table 4.20a above indicated that academic staffs do often access electronic journal ($\bar{x}$ =4.35, s=0.70); electronic book ($\bar{x}$ =3.95, s=1.00); electronic dictionary ($\bar{x}$ =3.56, s=1.08); electronic newspaper ($\bar{x}$ =3.48, s=1.01); and institutional repositories ($\bar{x}$ =3.31, s=0.99).

Table 4.20b presents mean and standard deviation scores of how often students' access electronic resources at NOUN library.

Table 4.20b: Mean and standard deviation scores of how often students access electronic resources at NOUN library

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Book	141 13.9%	82 8.1%	198 19.5%	305 30.1%	287 28.3%	3.51	1.34
Electronic Journal	200 19.7%	122 12.0%	237 23.4%	267 26.4%	187 18.5%	3.12	1.38
Electronic Newspaper	214 21.1%	128 12.6%	202 19.9%	283 27.9%	186 18.4%	3.00	1.41
Electronic Dictionary	254 25.1%	108 10.7%	221 21.8%	292 28.8%	138 13.6%	2.95	1.39
Electronic Magazine	251 24.8%	144 14.2%	224 22.1%	266 26.3%	128 12.6%	2.88	1.37
Electronic Thesis/Dissertation	254 25.1%	127 12.5%	292 28.8%	249 24.6%	91 9.0%	2.70	1.30
Electronic Archives	276 27.2%	135 13.3%	298 29.4%	240 23.7%	64 6.3%	2.69	1.28

Institutional Repositories	279 27.5%	174 17.2%	265 26.2%	201 19.8%	94 9.3%	2.66	131
Indexing and Abstracting Databases	322 31.8%	199 19.6%	278 27.4%	156 15.4%	58 5.7%	2.43	1.24
CD Databases	379 37.4%	216 21.3%	248 24.5%	121 11.9%	49 4.9%	2.26	1.21
GRAND MEAN=2.6745							

The results in Table 4.20b above showed that students do often access electronic book ($\bar{x}$ =3.51, s=1.34); electronic journal ($\bar{x}$ =3.12, s=1.38); electronic newspaper ($\bar{x}$ =3.00, s=1.41); electronic dictionary ($\bar{x}$ =2.95, s=1.39); and electronic magazine ($\bar{x}$ =2.88, s=1.37).

The academic staffs and students were asked to indicate how often they access electronic resources from different locations. Table 4.21a presents mean and standard deviation scores of how often academic staffs access electronic resources from different locations.

Table 4.21a: Mean and standard deviation scores of how often academic staffs access electronic resources from different locations

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{x}$)**	**SD (s)**
At Work	2 1.8%	3 2.7%	18 16.4%	46 41.8%	41 37.3%	4.10	0.90
At Home	1 .9%	4 3.6%	19 17.3%	59 53.6%	27 24.5%	3.97	0.81
Center Library	18 16.4%	39 35.5%	39 35.5%	7 6.4%	7 6.4%	2.51	1.05
At Café	46 41.8%	43 39.1%	18 16.4%	2 1.8%	1 .9%	1.81	0.84
GRAND MEAN=2.7040							

The items that best describe how often academic staffs access electronic resources from different locations as shown in Table 4.21a above are, at work ($\bar{X}$ =4.10, s=0.90); and at home ($\bar{X}$ =3.97, s=0.81).

Table 4.21b presents mean and standard deviation scores of how often students' access electronic resources from different locations.

Table 4.21b: Mean and standard deviation scores of how often students access electronic resources from different locations

ITEMS	**N(1)**	**R(2)**	**OC(3)**	**OF (4)**	**MO (5)**	**Mean ($\bar{X}$)**	**SD (s)**
At Home	77 7.6%	29 2.9%	148 14.6%	297 29.3%	462 45.6%	4.03	1.18
At Work	110 10.9%	70 6.9%	220 21.7%	329 32.5%	284 28.0%	3.50	1.26
At Café	346 34.2%	276 27.2%	236 23.3%	118 11.6%	37 3.7%	2.23	1.14
Center Library	436 43.0%	238 23.5%	220 21.7%	89 8.8%	30 3.0%	2.05	1.12
GRAND MEAN=2.5820							

The results in Table 4.21b above showed that students often access electronic resources at home ($\bar{X}$ =4.03, s=1.18); and at work ($\bar{X}$ =3.50, s=1.26).

4.4.7 Policies and infrastructure existing in the library to enable the use of electronic resources by academic staffs and students

The academic librarians and academic staffs were asked to indicate how NOUN library can combat the issue of insufficient funds. Table 4.22a presents mean and standard deviation scores of how NOUN library can combat the issue of insufficient funds as indicated by academic librarians.

Table 4.22a: Mean and standard deviation scores of how NOUN library can combat the issue of insufficient funds as indicated by academic librarians

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{X}$)	SD (s)
Requesting The University Management To Increase Library Budget	1 3.7%	-	-	10 37.0%	16 59.3%	4.52	0.70
Solicitng For Donations From Alumni Of The University	1 3.7%	1 3.7%	-	15 55.6%	10 37.0%	4.22	0.84
Engaging in Joint Acquisition with other Libraries	4 14.8%	3 11.1%	-	5 18.5%	15 55.6%	4.00	1.44
Soliciting For Donations From Faculty And Students	3 11.1%	2 7.4%	4 14.8%	9 33.3%	9 33.3%	3.70	1.32
Introducing Fee-Based Library services	5 18.5%	2 7.4%	4 14.8%	9 33.3%	7 25.9%	3.41	1.45
Reducing Printed Resources Aquisition	3 11.1%	5 18.5%	6 22.2%	9 33.3%	4 14.8%	3.22	1.25
Reducing Electronic Resources Acquisition	4 14.8%	7 25.9%	10 37.0%	4 14.8%	2 7.4%	2.74	1.13
GRAND MEAN=3.3513							

The items that best describe how NOUN library can combat the issue of insufficient funds as shown in Table 4.22a above are, requesting the university management to increase library budget ($\bar{X}$ =4.52, s=0.70); soliciting donations from alumni of the university ($\bar{X}$ =4.22, s=0.84); and engaging in joint acquisition with other libraries ($\bar{X}$ =4.00, s=1.44).

Table 4.22b presents mean and standard deviation scores of how NOUN library can combat the issue of insufficient funds as indicated by academic staffs.

Table 4.22b: Mean and standard deviation scores of how NOUN library can combat the issue of insufficient funds as indicated by academic staffs

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Requesting The University Management To Increase Library Budget	12 10.9%	3 2.7%	4 3.6%	45 40.9%	46 41.8 %	4.00	1.25
Engaging in Joint Acquision with other Libraries	9 8.2%	6 5.5%	11 10.0%	53 48.2%	31 28.2 %	3.83	1.15
Soliciting For Donations From Alumni Of The University	18 16.4%	6 5.5%	9 8.2%	67 60.9%	10 9.1%	3.41	1.24
Soliciting For Donations From Faculty And Students	19 17.3%	22 20.0 %	26 23.6%	35 31.8%	8 7.3%	2.92	1.23
Reducing Printed Resources Aquisition	20 18.2%	19 17.3 %	33 30.0%	29 26.4%	9 8.2%	2.89	1.22
Introducing Fee-Based Library services	15 13.6%	30 27.3 %	43 39.1%	21 19.1%	1 .9%	2.66	0.97
Reducing Electronic Resources Acquisition	16 14.5%	40 36.4 %	43 39.1%	9 8.2%	2 1.8%	2.46	0.91
GRAND MEAN=2.9063							

The results in Table 4.22b above showed how academic staffs indicated how NOUN library can combat the issue of insufficient funds, which include, requesting the university management to increase library budget ($\bar{x}$ =4.00, s=1.25); engaging in joint acquisition with other libraries ($\bar{x}$ =3.83, s=1.15); and soliciting donations from alumni of the university ($\bar{x}$ =3.41, s=1.24).

The academic librarians and academic staffs were asked to indicate library roles that can assist educational and research activities. Table 4.23a presents mean and standard deviation scores of library roles that can assist educational and research activities as indicated by academic librarians.

Table 4.23a: Mean and standard deviation scores of library roles that can assist educational and research activities as indicated by academic librarians

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{X}$)**	**SD (s)**
Organising Quality Library Staff Development Programme	-	-	-	8 29.6 %	19 70.4%	4.70	0.47
Organizing Information Literacy Programme For Library Users	-	-	-	9 33.3 %	18 66.7%	4.67	0.48
Subscribing To Electronic Resource Relevant To Users' Need	-	-	-	11 40.7 %	16 59.3%	4.59	0.50
Embarking On Yearly Orientation Programme For New Library Users	-	-	-	12 44.4 %	15 55.6%	4.56	0.50
Regularly Investing In New Technologies And Maintaining Library Infrastructures	1 3.7%	-	-	12 44.4 %	14 51.9%	4.41	0.84
Employing IT Skilled Library Staff	1 3.7%	1 3.7%	-	11 40.7 %	14 51.9%	4.40	0.74
Creating Feedback Mechanisms To Track Users Complaints And Profer Solutions	1 3.7%	-	-	14 51.9 %	12 44.4%	4.33	0.83

Forming Consortiums To Reduce Cost Of Electronic Resources Subscriptions	2 7.4%	-	-	11 40.7 %	14 51.9%	4.29	1.07
Embarking On Long-Term Access To Electronic Resources	3 11.1%	-	-	9 33.3 %	15 55.6%	4.22	1.25
Developing Electronic Resources Collections Development Policy	3 11.1%	-	-	12 44.4 %	12 44.4%	4.11	1.22
GRAND MEAN=4.1564							

The results in Table 4.23a above indicated academic librarians opinion on how library roles can assist educational and research activities through, organising quality library staff development programme ($\bar{x}$ =4.70, s=0.47); organizing information literacy programme for library users ($\bar{x}$ =4.67, s=0.48); subscribing to electronic resource relevant to users' need ($\bar{x}$ =4.59, s=0.50);embarking on yearly orientation programme for new library users ($\bar{x}$ =4.56, s=0.50); and regularly investing in new technologies and maintaining library infrastructures ($\bar{x}$ =4.41, s=0.84).

Table 4.23b presents mean and standard deviation scores of library roles that can assist educational and research activities as indicated by academic staffs.

Table 4.23b: Mean and standard deviation scores of library roles that can assist educational and research activities as indicated by academic staffs

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Subscribing To Electronic Resource Relevant To Users' Need	1 .9%	1 .9%	- %	52 47.3%	56 50.9%	4.46	0.65

Organizing Information Literacy Programme For Library Users	1 .9%	1 .9%	- %	61 55.5%	47 42.7%	4.38	0.64
Embarking On Long-Term Access To Electronic Resources	4 3.6%	1 .9%	- %	52 47.3%	53 48.2%	4.35	0.85
Regularly Investing In New Technologies And Maintaining Library Infrastructures	4 3.6%	1 .9%	- %	58 52.7%	47 42.7%	4.30	0.84
Organising Quality Library Staff Development Programme	4 3.6%	1 .9%	- %	65 59.1%	40 36.4%	4.24	0.82
Embarking On Yearly Orientation Programme For New Library Users	5 4.5%	2 1.8%	2 1.8%	55 50.0%	46 41.8%	4.23	0.94
Employing IT Skilled Library Staff	6 5.5%	1 .9%	- %	59 53.6%	44 40.0%	4.22	0.94
Creating Feedack Mechanisms To Track Users Complaints And Profer Solutions	6 5.5%	1 .9%	- %	62 56.4%	41 37.3%	4.19	0.93
Developing Electronic Resources Collections Development Policy	6 5.5%	1 .9%	2 1.8%	64 58.2%	37 33.6%	4.14	0.93
Forming Consortiums To Reduce Cost Of Electronic Resources Subscriptions	6 5.5%	2 1.8%	- %	67 60.9%	35 31.8%	4.12	0.94
GRAND MEAN=3.9818							

The results in Table 4.23b above showed academic staffs opinion on how library roles can assist educational and research activities through, subscribing to electronic resource relevant to users' need ($\bar{X}$ =4.46, s=0.65); organizing information literacy programme for library users ($\bar{X}$ =4.38, s=0.64); embarking on long-term access to electronic resources ($\bar{X}$ =4.35, s=0.85); regularly

investing in new technologies and maintaining library infrastructures ($\bar{x}$ =4.30, s=0.84); and organising quality library staff development programme ($\bar{x}$ =4.24, s=0.82).

4.4.8 Perception and attitude of academic staffs and students regarding the library's electronic resources

The academic staffs and student were asked to indicate how important electronic resources in NOUN library are to their research work/study. Table 4.24a presents mean and standard deviation scores of how important electronic resources in NOUN library are to academic staffs' research work/study.

Table 4.24a: Mean and standard deviation scores of how important electronic resources in NOUN library is to academic staffs' research work/study

ITEMS	UP(1)	SI(2)	IM(3)	VI(4)	EI(5)	Mean ($\bar{x}$)	SD (s)
Electronic Journal	2 1.8%	1 .9%	4 3.6%	59 53.6%	44 40.0%	4.29	0.75
Electronic Book	2 1.8%	- %	15 13.6%	41 37.3%	52 47.3%	4.28	0.84
Institutional Repositories	3 2.7%	6 5.5%	21 19.1%	25 22.7%	55 50.0%	4.12	1.07
Electronic Dictionary	5 4.5%	10 9.1%	24 21.8%	20 18.2%	51 46.4%	3.93	1.21
Indexing and Abstracting Databases	6 5.5%	3 2.7%	33 30.0%	21 19.1%	47 42.7%	3.91	1.15
Electronic Thesis/Dissertation	4 3.6%	2 1.8%	39 35.5%	27 24.5%	38 34.5%	3.85	1.04
Electronic Archives	12 10.9%	10 9.1%	32 29.1%	19 17.3%	37 33.6%	3.54	1.33
Electronic Newspaper	11 10.0%	16 14.5%	32 29.1%	15 13.6%	36 32.7%	3.45	1.35

CD Databases	9 8.2%	22 20.0%	34 30.9%	12 10.9%	33 30.0%	3.35	1.32
Electronic Magazine	12 10.9%	24 21.8%	31 28.2%	14 12.7%	29 26.4%	3.22	1.34
GRAND MEAN=3.5627							

The results in Table 4.24a above indicated how academic staffs rated the importance of electronic resources to their research work/study, electronic journal ($\bar{x}$ =4.29, s=0.75); electronic book ($\bar{x}$ =4.28, s=0.84); institutional repositries ($\bar{x}$ =4.12, s=1.07); electronic dictionary ($\bar{x}$ =3.93, s=1.21); and, indexing and abstracting databases ($\bar{x}$ =3.91, s=1.15).

Table 4.24b presents mean and standard deviation scores of how important electronic resources in NOUN library are to students' research work/study.

Table 4.24b: Mean and standard deviation scores of how important electronic resources in NOUN library is to students' research work/study

ITEMS	**UP(1)**	**SI(2)**	**IM(3)**	**VI(4)**	**EI(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Book	114 11.3%	33 3.3%	154 15.2%	339 33.5%	373 36.8%	3.81	1.80
Electronic Journal	120 11.8%	55 5.4%	188 18.6%	324 32.0%	326 32.2%	3.67	1.21
Electronic Thesis/Dissertation	151 14.9%	57 5.6%	193 19.1%	274 27.0%	338 33.4%	3.58	1.39
Electronic Dictionary	179 17.7%	84 8.3%	197 19.4%	249 24.6%	304 30.0%	3.40	1.44
Institutional Repositories	163 16.1%	91 9.0%	267 26.4%	188 18.6%	304 30.0%	3.37	1.41
Electronic Archives	181 17.9%	105 10.4%	230 22.7%	187 18.5%	310 30.6%	3.34	1.46

Electronic Newspaper	180 17.8%	134 13.2%	217 21.4%	194 19.2%	288 28.4%	3.27	1.45
Indexing and Abstracting Databases	196 19.3%	128 12.6%	234 23.1%	168 16.6%	287 28.3%	3.22	1.47
Electronic Magazine	207 20.4%	137 13.5%	215 21.2%	183 18.1%	271 26.8%	3.17	1.48
CD Databases	231 22.8%	178 17.6%	236 23.3%	133 13.1%	235 23.2%	2.96	1.47
GRAND MEAN=3.1900							

The results in Table 4.24b above showed how students rated the importance of electronic resources to their research work/study, electronic book ($\bar{x}$ =3.81, s=1.80); electronic journal ($\bar{x}$ =3.67, s=1.21); electronic thesis/dissertation ($\bar{x}$ =3.58, s=1.39); electronic dictionary ($\bar{x}$ =3.40, s=1.44); and institutional repositries ($\bar{x}$ =3.37, s=1.41).

The academic staffs and students were asked to indicate the features of electronic resources they consider to be the most important for research work/study. Table 4.25a presents mean and standard deviation scores of the features of electronic resources academic staffs considered to be the most important for research work/study.

Table 4.25a: Mean and standard deviation scores of the features of electronic resources academic staffs considered to be the most important for research work/study

ITEMS	**UP(1)**	**SI(2)**	**IM(3)**	**VI(4)**	**EI(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Access To Current/Up-To-Date Information	1 .9%	- %	5 4.5%	64 58.2%	40 36.4%	4.29	0.64
Improves Quality Of Research Work/Study	3 2.7%	- %	6 5.5%	54 49.1%	47 42.7%	4.29	0.81
Ability To Download Fulltext	2 1.8%	1 .9%	9 8.2%	54 49.1%	44 40.0%	4.25	0.79

Quick Information Retrieval	3 2.7%	1 .9%	13 11.8%	42 38.2%	51 46.4%	4.25	0.90
Availability Of Relevant Information	3 2.7%	- %	8 7.3%	43 39.1%	56 50.9%	4.25	0.90
Access To Wider Range Of Information	5 4.5%	- %	4 3.6%	66 60.0%	35 31.8%	4.15	0.87
Increases Quantity Of Research Work/Study	3 2.7%	2 1.8%	16 14.5%	45 40.9%	44 40.0%	4.13	0.92
GRAND MEAN=3.8575							

The results in Table 4.25a above showed the features of electronic resources academic staffs considered to be the most important for research work/study, access to current/up-to-date information ($\bar{x}$ =4.29, s=0.64); improves quality of research work/study ($\bar{x}$ =4.29, s=0.81); ability to download full text ($\bar{x}$ =4.25, s=0.79); quick information retrieval ($\bar{x}$ =4.25, s=0.90); and availability of relevant information ($\bar{x}$ =4.25, s=0.90).

Table 4.25b presents mean and standard deviation scores of the features of electronic resources students considered to be the most important for research work/study.

Table 4.25b: Mean and standard deviation scores of the features of electronic resources students considered to be the most important for research work/study

ITEMS	**UP(1)**	**SI(2)**	**IM(3)**	**VI(4)**	**EI(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Access To Current/Up-To-Date Information	98 9.7%	29 2.9%	103 10.2%	464 45.8%	319 31.5%	3.87	1.77
Ability To Download Fulltext	113 11.2%	27 2.7%	116 11.5%	397 39.2%	360 35.5%	3.85	1.25

Availability Of Relevant Information	126 12.4%	24 2.4%	88 8.7%	447 44.1%	328 32.4%	3.82	1.26
Access To Wider Range Of Information	126 12.4%	18 1.8%	111 11.0%	427 42.2%	331 32.7%	3.81	1.26
Improves Quality Of Research Work/Study	139 13.7%	26 2.6%	95 9.4%	413 40.3%	340 33.6%	3.78	1.31
Increases Quantity Of Research Work/Study	143 14.1%	50 4.9%	132 13.0%	301 29.7%	387 38.2%	3.73	1.38
Quick Information Retrieval	124 12.2%	20 2.0%	129 12.7%	402 39.7%	338 33.4%	3.70	1.27
GRAND MEAN=3.4875							

The results in Table 4.25b above indicated the features of electronic resources students considered to be the most important for research work/study, access to current/up-to-date information ($\bar{x}$ =3.87, s=1.77); ability to download full text ($\bar{x}$ =3.85, s=1.25); availability of relevant information ($\bar{x}$ =3.82, s=1.26); access to wider range of information ($\bar{x}$ =3.81, s=1.26); and improves quality of research work/study ($\bar{x}$ =3.78, s=1.31).

The academic staffs and student were asked to indicate their perception of electronic resources available at NOUN library. Table 4.26a presents mean and standard deviation scores of academic staffs' perception of electronic resources available at NOUN library.

Table 4.26a: Mean and standard deviation scores of academic staffs' perception of electronic resources available at NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
It Takes Too Much Time To Find Relevant Electronic Resources	2 1.8%	27 24.5%	60 54.5%	13 11.8%	8 7.3%	2.98	0.86
There Are Too Many Electronic Resources	20 18.2%	23 20.9%	35 31.8%	22 20.0%	10 9.1%	2.81	1.22
Electronic Resources Are Not Always Accessible	5 4.5%	37 33.6%	56 50.9%	8 7.3%	4 3.6%	2.72	0.81
Electronic Resources Are Not Updated	5 4.5%	33 30.0%	68 61.8%	1 .9%	3 2.7%	2.67	0.71
What I Find From Electronic Resources Is Not What I Need	11 10.0%	35 31.8%	55 50.0%	8 7.3%	1 .9%	2.57	0.81
GRAND MEAN=2.7450							

The results in Table 4.26a above showed academic staffs' perception of electronic resources available at NOUN library, it takes too much time to find relevant electronic resources ($\bar{x}$ =2.98, s=0.86); and there are too many electronic resources ($\bar{x}$ =2.81, s=1.22).

Table 4.26b presents mean and standard deviation scores of students' perception of electronic resources available at NOUN library.

Table 4.26b: Mean and standard deviation scores of students' perception of electronic resources available at NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
There Are Too Many Electronic Resources	233 23.0%	135 13.3%	259 25.6%	288 28.4%	98 9.7%	2.88	1.31
It Takes Too Much Time To Find Relevant Electronic Resources	214 21.1%	165 16.3%	376 37.1%	210 20.7%	48 4.7%	2.72	1.15
Electronic Resources Are Not Always Accessible	250 24.7%	232 22.9%	373 36.8%	123 12.1%	35 3.5%	2.47	1.09
What I Find From Electronic Resources Is Not What I Need	207 20.4%	292 28.8%	447 44.1%	52 5.1%	15 1.5%	2.38	.92
Electronic Resources Are Not Updated	313 30.9%	210 20.7%	365 36.0%	103 10.2%	22 2.2%	2.31	1.08
GRAND MEAN=2.3283							

The results in Table 4.26b above indicated students' perception of electronic resources available at NOUN library, there are too many electronic resources ($\bar{x}$ =2.88, s=1.31); it takes too much time to find relevant electronic resources ($\bar{x}$ =2.72, s=1.15); and electronic resources are not always accessible ($\bar{x}$ =2.47, s=1.09).

The academic staffs and student were asked to indicate how satisfied they are with the electronic resources available at NOUN library. Table 4.27a presents mean and standard deviation scores of academic staffs' satisfaction with the electronic resources available at NOUN library.

Table 4.27a: Mean and standard deviation scores of academic staffs' satisfaction with the electronic resources available at NOUN library

ITEMS	UD(1)	VD(2)	DS(3)	ST(4)	VS(5)	Mean ($\bar{x}$)	SD (s)
Electronic Journal	11 10.0%	1 .9%	1 .9%	56 50.9%	41 37.3%	4.05	1.15
Electronic Book	12 10.9%	- %	1 .9%	67 60.9%	30 27.3%	3.94	1.13
Electronic Newspaper	24 21.8%	- %	2 1.8%	58 52.7%	26 23.6%	3.56	1.43
Electronic Dictionary	22 20.0%	- %	2 1.8%	68 61.8%	18 16.4%	3.55	1.34
Institutional Repositories	22 20.0%	- %	9 8.2%	59 53.6%	20 18.2%	3.50	1.35
Indexing and Abstracting Databases	26 23.6%	- %	5 4.5%	65 59.1%	14 12.7%	3.37	1.39
Electronic Thesis/Dissertation	30 27.3%	- %	10 9.1%	55 50.0%	15 13.6%	3.23	1.45
Electronic Magazine	32 29.1%	- %	2 1.8%	63 57.3%	13 11.8%	3.23	1.48
Electronic Archives	49 44.5%	- %	5 4.%	44 40.0%	12 10.9%	2.73	1.60
CD Databases	47 42.7%	2 1.8%	11 10.0%	39 35.5%	11 10.0%	2.68	1.55
GRAND MEAN=3.1764							

The results in Table 4.27a above showed how satisfied academic staffs are with the electronic resources available at NOUN library, electronic journal ($\bar{x}$ =4.05, s=1.15); electronic book ($\bar{x}$ =3.94, s=1.13); electronic newspaper ($\bar{x}$ =3.56, s=1.43); electronic dictionary ($\bar{x}$ =3.55, s=1.34); and institutional repositories ($\bar{x}$ =3.50, s=1.35).

Table 4.27b presents mean and standard deviation scores of students' satisfaction with the electronic resources available at NOUN library.

Table 4.27b: Mean and standard deviation scores of students' satisfaction with the electronic resources available at NOUN library

ITEMS	**UD(1)**	**VD(2)**	**DS(3)**	**ST(4)**	**VS(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Book	233 23.0%	16 1.6%	49 4.8%	464 45.8%	251 24.8%	3.48	1.47
Electronic Journal	280 27.6%	32 3.2%	66 6.5%	428 42.3%	207 20.4%	3.25	1.52
Electronic Newspaper	330 32.6%	28 2.8%	67 6.6%	386 38.1%	202 19.9%	3.10	1.58
Electronic Dictionary	353 34.8%	31 3.1%	38 3.8%	412 40.7%	179 17.7%	3.03	1.59
Electronic Thesis/Dissertation	356 35.1%	24 2.4%	82 8.1%	378 37.3%	173 17.1%	2.99	1.58
Electronic Magazine	378 37.3%	29 2.9%	65 6.4%	365 36.0%	176 17.4%	2.93	1.60
Electronic Archives	389 38.4%	36 3.6%	67 6.6%	407 40.2%	114 11.3%	2.82	1.55
Institutional Repositories	419 41.4%	27 2.7%	85 8.4%	347 34.3%	135 13.3%	2.76	1.58
Indexing and Abstracting Databases	463 45.7%	33 3.3%	93 9.2%	327 32.3%	97 9.6%	2.57	1.54
CD Databases	510 50.3%	56 5.5%	103 10.2%	266 26.3%	78 7.7%	2.35	1.49
GRAND MEAN=2.7709							

The results in Table 4.27b above indicated how satisfied students are with the electronic resources available at NOUN library, electronic book ($\bar{X}$ =3.48, s=1.47); electronic journal ($\bar{X}$ =3.25, s=1.52); electronic newspaper ($\bar{X}$ =3.10, s=1.58); electronic dictionary ($\bar{X}$ =3.03, s=1.59); and electronic thesis/dissertation ($\bar{X}$ =2.99, s=1.58).

The academic staffs and students were asked to indicate if they preferred electronic resources to print resources to carry out their research work/study. Table 4.28a presents mean and standard deviation scores of academic staffs' choice of resources employed to carry out their research work/study.

Table 4.28a: Mean and standard deviation scores of academic staffs' choice of resources employed to carry out their research work/study

ITEMS	**UD (1)**	**SD(2)**	**D(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{X}$)**	**SD (s)**
I prefer Electronic Resources in carrying out my research work/study	3 2.7%	2 1.8%	4 3.6%	32 29.1%	69 62.7%	4.47	0.87
Both	7 6.4%	4 3.6%	- %	41 37.3%	58 52.7%	4.30	1.03
I prefer Print Resources in carrying out my research work/study	5 4.5%	3 2.7%	3 2.7%	50 45.5%	49 44.5%	4.23	0.97
None	37 33.6%	58 52.7%	13 11.8%	1 .9%	1 .9%	1.83	0.74
GRAND MEAN=3.7075							

The results in Table 4.28a above showed academic staffs' choice of resources employed to carry out their research work/study, I prefer electronic resources in carrying out my research work/study ($\bar{X}$ =4.47, s=0.87); both ($\bar{X}$ =4.30, s=1.03); and I prefer print resources in carrying out my research work/study ($\bar{X}$ =4.23, s=0.97).

Table 4.28b presents mean and standard deviation scores of students' choice of resources employed to carry out their research work/study.

Table 4.28b: Mean and standard deviation scores of students' choice of resources employed to carry out their research work/study

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Electronic Resources in carrying out my research work/study	134 13.2%	6 .6%	11 1.1%	393 38.8%	469 46.3%	4.04	1.30
Both	187 18.5%	19 1.9%	18 1.8%	365 36.0%	424 41.9%	3.81	1.46
I prefer Print Resources in carrying out my research work/study	236 23.3%	17 1.7%	67 6.6%	481 47.5%	212 20.9%	3.41	1.45
None	562 55.5%	343 33.9%	80 7.9%	20 2.0%	8 .8%	1.59	0.78
GRAND MEAN=3.2125							

The results in Table 4.28b above indicated students' choice of resources employed to carry out their research work/study, I prefer electronic resources in carrying out my research work/study ($\bar{x}$ =4.04, s=1.30); both ($\bar{x}$ =3.81, s=1.46); and I prefer print resources in carrying out my research work/study ($\bar{x}$ =3.41, s=1.45).

The study sought to know academic librarians', academic staffs' and students' evaluation of the electronic resources in NOUN Library. The academic librarians were asked to evaluate the electronic resources in NOUN library. Table 4.29a presents mean and standard deviation scores of academic librarians' evaluation of electronic resources in NOUN library.

Table 4.29a: Mean and standard deviation scores of academic librarians' evaluation of electronic resources in NOUN library

ITEMS	NAU(1)	NU(2)	NS(3)	US(4)	VU(5)	Mean ($\bar{X}$)	SD (s)
Electronic Journal	-	6 22.2%	-	21 77.8%	-	3.78	0.42
Electronic Book	-	8 29.6%	2 7.4%	17 63.0%	-	3.49	0.85
Electronic Thesis/Dissertation	-	1 3.7%	12 44.4%	14 51.9%	-	3.44	0.67
CD Databases	-	12 44.4%	2 7.4%	13 48.1%	-	3.33	0.83
Electronic Newspaper	-	12 44.4%	3 11.1%	12 44.4%	-	3.22	0.93
Electronic Magazine	-	12 44.4%	3 11.1%	12 44.4%	-	3.22	0.93
Electronic Dictionary	1 3.7%	10 37.0%	4 14.8%	13 48.1%	-	3.19	1.03
Institutional Repositories	-	5 18.5%	7 25.9%	15 55.6%	-	3.03	1.28
Electronic Archives	-	11 40.7%	5 18.5%	11 40.7%	-	3.03	1.09
Indexing and Abstracting Databases	1 3.7%	6 33.3%	6 22.2%	11 40.7%	-	2.93	1.17
GRAND MEAN=3.0773							

The results in Table 4.29a above showed academic librarians' evaluation of electronic resources in NOUN library, electronic journal ($\bar{X}$ =3.78, s=0.42); electronic book ($\bar{X}$ =3.49, s=0.85); electronic thesis/dissertation ($\bar{X}$ =3.44, s=0.67); CD databases ($\bar{X}$ =3.33, s=0.83); and electronic newspaper ($\bar{X}$ =3.22, s=0.93).

The academic staffs were asked to evaluate the electronic resources in NOUN library. Table 4.29b presents mean and standard deviation scores of academic staffs' evaluation of electronic resources in NOUN library.

Table 4.29b: Mean and standard deviation scores of academic staffs' evaluation of electronic resources in NOUN library

ITEMS	**NAU(1)**	**NU(2)**	**NS(3)**	**US(4)**	**VU(5)**	**Mean ($\bar{X}$)**	**SD (s)**
Electronic Journal	3 2.7%	- %	- %	51 46.4%	56 50.9%	4.43	0.76
Electronic Dictionary	8 7.3%	- %	1 .9%	71 64.5%	30 27.3%	4.41	0.97
Electronic Book	6 5.5%	- %	- %	58 52.7%	46 41.8%	4.25	0.92
Electronic Thesis/Dissertation	12 10.9%	- %	2 1.8%	67 60.9%	29 26.4%	3.92	1.13
Indexing and Abstracting Databases	15 13.6%	- %	- %	67 60.9%	28 25.5%	3.85	1.21
Institutional Repositories	18 16.4%	- %	1 .9%	63 57.3%	28 25.5%	3.75	1.30
Electronic Archives	20 18.2%	1 .9%	1 .9%	61 55.5%	27 24.5%	3.67	1.35
Electronic Newspaper	16 14.5%	1 .9%	5 4.5%	70 63.6%	18 16.4%	3.66	1.21
Electronic Magazine	28 25.5%	1 .9%	3 2.7%	65 59.1%	13 11.8%	3.31	1.42
CD Databases	30 27.3%	3 2.7%	4 3.6%	52 47.3%	21 19.1%	3.28	1.52
GRAND MEAN=3.6391							

The results in Table 4.29b above showed academic staffs' evaluation of electronic resources in NOUN library, electronic journal ($\bar{x}$ =4.43, s=0.76); electronic dictionary ($\bar{x}$ =4.41, s=0.97); electronic book ($\bar{x}$ =4.25, s=0.92); electronic thesis/dissertation ($\bar{x}$ =3.92, s=1.13); and indexing and abstracting databases ($\bar{x}$ =3.85, s=1.21).

The students were asked to evaluate the electronic resources in NOUN library. Table 4.30c presents mean and standard deviation scores of students' evaluation of electronic resources in NOUN library.

Table 4.29c: Mean and standard deviation scores of students' evaluation of electronic resources in NOUN library

ITEMS	**NAU(1)**	**NU(2)**	**NS(3)**	**US(4)**	**VU(5)**	**Mean ($\bar{x}$)**	**SD (s)**
Electronic Book	162 16.0%	6 .9%	5 .5%	435 42.9%	402 39.7%	3.89	1.37
Electronic Journal	178 17.6%	16 1.6%	12 1.2%	483 47.7%	32.4 32.0%	3.75	1.38
Electronic Thesis/Dissertation	246 24.3%	6 .6%	7 .7%	452 44.6%	302 29.8%	3.55	1.52
Electronic Dictionary	250 24.7%	6 .6%	13 1.3%	458 45.2%	286 28.2%	3.52	1.52
Electronic Newspaper	259 25.6%	6 .6%	19 1.9%	448 44.2%	281 27.7%	3.48	1.53
Electronic Archives	278 27.4%	10 1.0%	25 2.5%	483 47.7%	217 21.4%	3.35	1.52
Electronic Magazine	300 29.6%	7 .7%	26 2.6%	444 43.8%	236 23.3%	3.30	1.57
Institutional Repositories	317 31.3%	8 .8%	18 1.8%	441 43.5%	229 22.6%	3.25	1.59

Indexing and Abstracting Databases	364 35.9%	8 .8%	437 43.1%	437 43.1%	189 18.7%	3.08	1.62
CD Databases	438 43.2%	20 2.0%	36 3.6%	359 35.4%	160 15.8%	2.79	1.64
GRAND MEAN=3.2055							

The results in Table 4.29c above showed students' evaluation of electronic resources in NOUN library, electronic book ($\bar{X}$ =3.89, s=1.37); electronic journal ($\bar{X}$ =3.75, s=1.38); electronic thesis/dissertation ($\bar{X}$ =3.55, s=1.52); electronic dictionary ($\bar{X}$ =3.52, s=1.52); and electronic newspaper ($\bar{X}$ =3.48, s=1.53).

4.4.9 Challenges encountered by students and academic staffs while accessing and using library electronic resources

The respondents were asked to indicate the challenges faced while accessing and using library electronic resources. Table 4.30a presents mean and standard deviation scores of the challenges the library encounters while providing access to electronic resources as indicated by academic librarians.

Table 4.30a: Mean and standard deviation scores of the challenges the library encounters while providing access to electronic resources as indicated by academic librarians

ITEMS	**SD(1)**	**D(2)**	**UD(3)**	**A(4)**	**SA(5)**	**Mean ($\bar{X}$)**	**SD (s)**
Electricity Outage	1 3.7%	1 3.7%	2 7.4%	10 37.0%	13 48.1%	4.22	1.01
High Cost Of Providing Alternative Power Supply	1 3.7%	1 3.7%	1 3.7%	13 48.1%	11 40.7%	4.19	0.96
Low Internet Connectivity Speed	2 7.4%	1 3.7%	1 3.7%	12 44.4%	11 40.7%	4.07	1.14

Inadequate Awareness On The Availabilty Of Electronic Resources	1 3.7%	2 7.4%	3 11.1%	12 44.4%	9 33.3%	3.96	1.06
Slow Download Speed	3 11.1%	1 3.7%	4 14.8%	9 33.3%	10 37.0%	3.81	1.30
Lack Of Internet Access In The Library	3 11.1%	2 7.4%	3 11.1%	9 33.3%	10 37.0%	3.78	1.34
Cost Of Access To Internet Is High	3 11.1%	1 3.7%	5 18.5%	11 40.7%	7 25.9%	3.67	1.24
Insufficient Computers In The Library	3 11.1%	2 7.4%	6 22.2%	10 37.0%	6 22.2%	3.52	1.25
Limited User Licence	8 29.6%	3 11.1%	5 18.5%	5 18.5%	6 22.2%	2.93	1.57
GRAND MEAN=3.5480							

The results in Table 4.30a above showed the challenges the library encounter while providing access to electronic resources as indicated by academic librarians, electricity outage ($\bar{x}$ =4.22, s=1.01); high cost of providing alternative power supply ($\bar{x}$ =4.19, s=0.96); low internet connectivity speed($\bar{x}$ =4.07, s=1.14); inadequate awareness on the availability of electronic resources($\bar{x}$ =3.96, s=1.06); and slow download speed($\bar{x}$ =3.81, s=1.30).

Table 4.30b presents mean and standard deviation scores of the challenges encountered by academic staffs while accessing and using electronic resources.

Table 4.30b: Mean and standard deviation scores of the challenges encountered by academic staffs while accessing and using electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Electricity outage	6 5.5%	3 2.7%	13 11.8%	56 50.9%	32 29.1%	3.95	1.00
Low internet connectivity speed	6 5.5%	4 3.6%	11 10.0%	58 52.7%	31 28.2%	3.95	1.01
Cost of access to internet is high	13 11.8%	1 .9%	19 17.3%	58 52.7%	19 17.3%	3.63	1.15
Slow download speed	12 10.9%	2 1.8%	21 19.1%	61 55.5%	14 12.7%	3.57	1.10
Insufficient time to access electronic resources due to work overload	10 9.1%	10 9.1%	34 30.9%	36 32.7%	20 18.2%	3.42	1.16
Too much information is retrieved when a search is initiated	10 9.1%	7 6.4%	38 34.5%	50 45.5%	5 4.5%	3.30	0.99
Lack of internet access in the library	13 11.8%	7 6.4%	37 33.6%	41 37.3%	12 10.9%	3.29	1.13
Indequate awareness on the availabilty of electronic resources	14 12.7%	8 7.3%	30 27.3%	50 45.5%	8 7.3%	3.27	1.12
Lack of training or orientations on the use of library electronic resources	12 10.9%	11 10.0 %	36 32.7%	41 37.3%	10 9.1%	3.24	1.11
Shortage of librarians to assist in the use of library electronic resources	16 14.5%	8 7.3%	29 26.4%	53 48.2%	4 3.6%	3.19	1.12
Limited access to library electronic resources	11 10.0%	12 10.9 %	39 35.5%	44 40.0%	4 3.6%	3.16	1.02
Lack of knowledge about email alert and RSS services	9 8.2%	12	48 43.6%	35 31.8%	6 5.5%	3.15	0.98

		10.9 %					
Lack of knowledge about advanced searching techniques	5 4.5%	20 18.2 %	50 45.5%	28 25.5%	7 6.4%	3.11	0.93
Limited library hours to use electronic resources	19 17.3%	6 5.5%	45 40.9%	29 26.4%	11 10.0%	3.06	1.19
Difficulty in reading from the monitor	8 7.3%	19 17.3 %	50 45.5%	27 24.5%	6 5.5%	3.04	0.97
Electronic resources is not remotely accessible	8 7.3%	23 20.9 %	53 48.2%	17 15.5%	9 8.2%	2.96	0.99
Lack of online search skills	9 8.2%	19 17.3 %	60 54.5%	13 11.8%	9 8.2%	2.95	0.98
Difficulty in finding relevant information	11 10.0%	21 19.1 %	49 44.5%	24 21.8%	5 4.5%	2.92	1.00
Insufficient computers in the library	21 19.1%	9 8.2%	53 48.2%	24 21.8%	3 2.7%	2.81	1.07
GRAND MEAN=3.1510							

The results in Table 4.30b above showed the challenges encountered by academic staffs while accessing and using electronic resources, electricity outage ($\bar{x}$ =3.95, s=1.00); low internet connectivity speed ($\bar{x}$ =3.95, s=1.01); cost of access to the internet is high ($\bar{x}$ =3.63, s=1.15);slow download speed ($\bar{x}$ =3.57, s=1.10); and insufficient time to access electronic resources due to work overload ($\bar{x}$ =3.42, s=1.16).

Table 4.30c presents mean and standard deviation scores of the challenges encountered by students while accessing and using electronic resources.

Table 4.30c: Mean and standard deviation scores of the challenges encountered by students while accessing and using electronic resources

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean ($\bar{x}$)	SD (s)
Low internet connectivity speed	152 15.0%	23 2.3%	98 9.7%	466 46.0%	274 27.0%	3.68	1.31
Electricity outage	172 17.2%	43 4.2%	135 13.3%	391 38.6%	272 26.9%	3.54	1.38
Cost of access to internet is high	190 18.8%	26 2.6%	147 14.5%	432 42.6%	218 21.5%	3.46	1.36
Slow download speed	227 22.4%	24 2.4%	113 11.2%	453 44.7%	196 19.3%	3.36	1.42
Insufficient computers in the library	267 26.4%	78 7.7%	179 17.7%	346 34.2%	143 14.1%	3.02	1.43
Lack of internet access in the library	302 29.8%	44 4.3%	201 19.8%	284 28.0%	182 18.0%	3.00	1.50
Shortage of librarians to assist in the use of library electronic resources	294 29.0%	77 7.6%	165 16.3%	345 34.1%	132 13.0%	2.94	1.45
Insufficient time to access electronic resources due to work overload	264 26.1%	73 7.2%	245 24.2%	334 33.0%	97 9.6%	2.93	1.35
Limited library hours to use electronic resources	307 30.3%	67 6.6%	174 17.2%	346 34.2%	119 11.7%	2.90	1.44

Indequate awareness on the availabilty of electronic resources	223 22.0%	131 12.9%	305 30.1%	276 27.2%	78 7.7%	2.86	1.25
Limited access to library electronic resources	267 26.4%	109 10.8%	225 22.2%	335 33.1%	77 7.6%	2.85	1.33
Electronic resources is not remotely accessible	248 24.5%	148 14.6%	288 28.4%	237 23.4%	92 9.1%	2.78	1.29
Lack of knowledge about advanced searching techniques	207 20.4%	211 20.8%	308 30.4%	228 22.5%	59 5.8%	2.72	1.19
Lack of training or orientations on the use of library electronic resources	260 25.7%	172 17.0%	276 27.2%	237 23.4%	68 6.7%	2.69	1.27
Difficulty in finding relevant information	263 26.0%	142 14.0%	318 31.4%	233 23.0%	57 5.6%	2.68	1.24
Lack of knowledge about email alert and RSS services	255 25.2%	180 17.8%	324 32.0%	200 19.7%	54 5.3%	2.62	1.21
Too much information is retrieved when a search is initiated	342 33.8%	111 11.0%	246 24.3%	234 23.1%	80 7.9%	2.60	1.36
Lack of online search skills	248 24.5%	224 22.1%	325 32.1%	170 16.8%	46 4.5%	2.55	1.16
Difficulty in reading from the monitor	234 23.1%	217 21.4%	385 38.0%	136 13.4%	41 4.0%	2.54	1.11
GRAND MEAN=2.8475							

The results in Table 4.30c above showed the challenges encountered by students while accessing and using electronic resources, low internet connectivity speed ($\bar{x}$ =3.68, s=1.31); electricity

outage ($\bar{X}$ =3.54, s=1.38); cost of access to the internet is high ($\bar{X}$ =3.46, s=1.36); slow download speed ($\bar{X}$ =3.36, s=1.42); and insufficient computers in the library ($\bar{X}$ =3.02, s=1.43).

4.5 Chapter Summary

This chapter presented findings of the data collected from academic librarians, academic staffs and students on the extent of accessibility to and usage of library electronic resources by students and staff of the National Open University of Nigeria (NOUN). Data analysis presentation was anchored on the research questions in line with the study objectives. Findings presentation reflects the true findings per various groups of respondents' responses within the scope of questions provided in the questionnaires as presented in appendix two, three and four; and was compiled using frequency, percentage, mean, standard deviation, and tables.

CHAPTER FIVE
DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter discusses the findings of the study as presented in the previous chapter. The aim of this study was to investigate the accessibility and use of library electronic resources by students and staff of the National Open University of Nigeria. The interpretations of the findings were based on the following specific objectives:

1. To find out the different types of electronic resources available in the NOUN Library;
2. To investigate academic staffs' and students' level of awareness of electronic resources available in the NOUN library;
3. To identify the various types of electronic resources used by academic staffs and students of NOUN;
4. To find out how academic staffs and students access and use electronic resources in NOUN library;
5. To identify the policies that enable access to and use of electronic resources by academic staffs and students at NOUN;
6. To find out the perceptions and attitudes of academic staffs and students toward the electronic resources available in the NOUN library; and
7. To identify the challenges associated with access to and use of electronic resources by the academic staffs and students of NOUN.

These specific objectives were addressed by the study through the following research questions:

1. What electronic resources are available in NOUN?
2. Are academic staff and students aware of the electronic resources offered at NOUN?
3. What tools are used by NOUN Library to create awareness?
4. Which electronic resources are used by academic staff and students?
5. How do academic staff and students access electronic resources at NOUN?
6. How often do academic staff and students access these electronic resources available in NOUN?

7. What policies and infrastructure exist in the library to enable the use of electronic resources by academic staff and students?
8. What is the perception of academic staff and students regarding the library's electronic resources?
9. What are the challenges encountered by students and academic staff while accessing and using library electronic resources?

5.2 Respondents' demographic profile

The distribution of respondents as presented in table 4.1 was based on three categories, namely the academic librarians 27 (2.4%), the academic staff 110 (9.5%) and the students 1,013 (88.1%) showing that the student respondents were the majority. The study response rate for academic librarian was 100%, academic staff (79%), students (67%), while the overall response rate was 68%, that is 1,150 respondents out of 1,680.

As noted in table 4.2, the study revealed that out of the 27 academic librarians that participated in the study, 18 (66.7%) were female, while 9 (33.3%) were male. This indicated that female librarians were more than their male colleagues. This finding concurs with Silver (1988) who observed that female librarians' population has not gone below 60% for about 100 years. Murgai (2004), too, found, after carrying out a study in four countries, that 50% to 80% of the women were in library and information science profession. This is probably due to the fact that women find it much easier working with people because they are more empathetic than men. The study revealed that majority of the academic librarians were of the age bracket 30 – 34 years (37%), followed by 35 – 39 years (25.9%), an indication that librarians in NOUN are young academics with more active years ahead. In addition, 55.6% had masters degree or its equivalent, while 11.1% are holders of PhD degree, which implied that the sampled academic librarian were fairly educated and qualified for the job. As presented in table 4.3, the study revealed that out of the 110 academic staff that participated in the study, 58 (52.7%) were male, while 48 (43.6%) were female showing that majority were male. Majority of the academic staff were of the age bracket of over 50years (24.5%), followed by age bracket 45 – 49years (23.6%). An indication that majority of the academic staff have reached the peak of their professional career with few more active years. A

higher percentage of the academic staff were holders of PhD degree (60%) which showed that they are highly educated and qualified for the job.

As presented in table 4.4, the study showed that out of 1,013 students, 656 (64.8%) were male, while 331 (32.7%) were female. Majority of the students were of the age bracket 30 – 34 years (31.2%). The distribution of the students by level of study also showed that over 60% were post graduate students. This is perhaps an indication that the student respondents were likely to be working-class members of the society that enrolled in NOUN to obtain a second-degree qualification for better job placement, promotion or fulfilling employers' mandatory requirements for higher responsibilities.

5.3 Types of electronic resources available in NOUN

The academic librarians were asked to indicate the types of electronic resources available in NOUN. As presented in table 4.5, majority of the academic librarians agreed that electronic journals, are available in NOUN, with 77.7% selecting electronic books while 74.1% selected CD databases. Though CD ROM databases are being faced out of the information market, it is still relevant in most developing countries of the world like Nigeria, where infrastructures to drive modern inventions are not affordable and out of reach to most libraries.

A similar study by Quadri, Adetimirin & Idowu (2014) found that majority (46.5%) of the respondents in Babcock university, Nigeria agreed that electronic journals were available in the library. Edem & Egbe (2016) reported that majority (43.65%) of the respondents agreed to the availability of electronic journals. Seemingly, electronic resources are increasingly becoming common in academic libraries. Manorama & Jeevan (2013) had observed that there is an increase in the volume of electronic journals collections among academic libraries and research centers due to its importance in academic and research works. Majority of the respondents indicated that electronic archives does not exist in the NOUN library. This finding revealed that electronic journals and electronic books are readily available in the library. Since the activities of the academic staff and postgraduate students (over 60% of students' population) are mainly research-based. According to Madhusudhan (2010), researchers are in search of the most efficient ways of getting relevant reference materials, reducing time spent and improving research output. NOUN

being an ODL institution, the library provides electronic resources to remote users who are majorly research scholars.

5.4 Users' awareness of NOUN library electronic resources

The study showed that majority (70%) of the academic staff were aware of NOUN library electronic resources through library staff, while majority (60%) of the students were aware through personal discovery. This implies that majority of the academic staff most likely, interact with the library staff or visit the library to be aware of library electronic resources, however, it appears that the students struggled to be aware through personal efforts. The study revealed that academic staff were more aware than the students, this was also reported in a study conducted by Kaur & Verma (2009) who stated that 96% of faculty members and 19% of undergraduate students were aware of library electronic resources. The level of electronic resources awareness among students is low and the NOUN libraries need to vigorously market the electronic resources to their users. This agrees with Tripathi & Jeevan (2009) that most often, majority of remote learners are not aware of the electronic resources in their libraries and further corroborates the study by Damilola (2013) that showed that majority of remote learners in NOUN Lagos and Ibadan study centers were not aware of their libraries electronic resources. This is a disturbing trend as it implies that over the years there has been no significant improvement on remote learners' awareness of NOUN library electronic resources. Previous studies by Kumar & Singh (2011), Okiki (2012) and Dadzie & Walt (2015), also revealed that majority of faculty members, indicated non-awareness of library electronic resources. On the contrary Egberongbe (2011), Fasola (2013) and Gupta & Sharma (2015) reported high level of awareness among lecturers, research scholars and students.

This study showed that 87% of academic staff rated awareness through the library staff as effective, very effective, and most effective; staff members (67%); and electronic mail (64%), while 66% of students rated awareness through peers as effective, very effective, and most effective; friends (63%); and new students' orientation programme (63%). The findings revealed that the academic staff are more aware of the library electronic resources than the students. Majority (88%) of the research participants are students, while 9.5% are academic staff; this implied that there is a big gap in the utilization of these resources as a significant percentage of remote users do not utilize these electronic resources.

5.5 Tools used in creating awareness on NOUN library electronic resources

The study also sought to investigate the tools used by the NOUN library to create awareness. The academic librarians and students selected electronic mail, notice boards and texting (SMS) as tools used by the library to create awareness, while academic staff chose notice boards, twitter and electronic mail as tools used by the library to create awareness. Haridasan & Khan (2009); Gupta & Sharma (2015) studies revealed that library website was used to create awareness on available electronic resources in the library. Zafar (2013) reported that library brochure was used to create awareness on library electronic resources. Dadzie & Walt (2015) revealed that electronic mail was employed as a tool for creating awareness on the library electronic resources.

According to the current study's findings, the modern tools that can be effectively employed to create awareness on electronic resources in the library include electronic mail, Facebook and texting (SMS). Some of these have been highlighted by Leong (2009) who observes that the strategies for creating awareness to distant learners include: making use of contacts, providing awareness programme on web site and constant delivery of information. The use of modern tools such as the social media in consonant with these strategies would greatly enhance electronic resources awareness among distant learners at NOUN. The integration of the various modern tools, such as electronic mail, Facebook and SMS, and other relevant social media tools into the library webpage and the academic staff/students' portal platforms would also enhance their effectiveness as more remote users would be aware of library electronic resources. According to Dadzie & Walt (2015); Islam & Habiba (2015), the deployment of modern tools on the library webpage improved awareness, enhanced library and users' collaborations, the creation and sharing of information, and bridged the gap between the library and remote users.

5.6 Electronic resources used by academic staff and students

The study found that majority of the academic staff use electronic journals twice weekly, electronic books once weekly and electronic newspapers twice weekly. However, majority of the students use electronic newspaper twice weekly, rarely use electronic book and electronic journals. This finding is similar to the studies of Bhatia (2011), Thanuskodi (2011), Okiki (2012), Oyedapo & Ojo (2013), Dadzie & Walt (2015) that stated that less than 40% of respondents frequently use

electronic resources in the library. The academic staff and students were asked how often they make use of the electronic resources and for what purpose. Majority of academic staff stated that they often use electronic resources for studying subject of interest and more often for publications. The study also revealed that majority of the students often use the electronic resources for studying subject of interest, information retrieval and writing term paper/course work assignment. This finding corroborates with the studies by Haridasan & Khan (2009), Deng (2010), Bhatia (2011), Dhanavandan, Esmail & Nagarajan (2012), Zafar (2013), Ahmed & Amjad (2014), Garg (2014), Joshua (2014), Gupta & Sharma (2015) whose findings revealed that respondents frequently use electronic resources for learning, education, and research. The study showed that academic staff and students occasionally use the electronic resources for recreation. The study also agreed with previous studies cited above that library users tend to use electronic resources for knowledge acquisition and research for development and growth rather than for recreational purposes.

The findings on the use of electronic resources show that the majority of the academic librarians strongly agreed that library users are motivated to use electronic resources because it is easy to use, and provide relevant and up to date information, which are useful in research work. Majority of academic staff strongly agreed that research work and ability to download full text are the motiving factors in the usage of electronic resources. The motivating factors students agreed to have influenced their use of the library electronic resources include: ease of usage, availability of relevant information and speed of information retrieval. They all strongly agreed that the usefulness of electronic resources in research work motivates their use. Amongst various motivating factors, the usefulness of electronic resources for research work ranked highest. The above findings are similar to studies by Deng (2010), Ge (2010), Kumar & Kumar (2010), Okello-Obura & Ikoja-Odongo (2010), Egberongbe (2011), Kumar & Ansari (2011), Sharma, Singh & Sharma (2011) (2011), Ranganathan (2011), Hadagali, Kumbar, Nelogal & Bachalapur (2012), Okiki (2012), Amjad, Ahmed & Naeem (2013), Gakibayo & Okello-Obura (2013), Gupta & Sharma (2015), and Qasim & Khan (2015) that stated quick and easy access to a wide range of relevant information that are very useful in research studies as motivating factors to use of electronic resources. This study revealed that the academic staff and students use the library electronic resources for various multidimensional purposes due to some motivating factors as

discussed above, however, there is a low patronage of these electronic resources by academic staff and students as less than 40% of academic staff and students use the library electronic resources. The study further sought to find out why some respondents do not make use of the library electronic resources. The study revealed that over 50% of the academic staff and students were not sure if electronic resources are available in the library. They do not know how to use electronic resources, do not know where to find them, do not know if they are useful and are not interested in these electronic resources. Previous studies by Haridasan & Khan (2009), Deng (2010), Ge (2010) also showed that respondents were not familiar with library electronic resources.

The academic librarians were asked to indicate how library users learned to use electronic resources. Majority of the academic librarians indicated that library users learned to use electronic resources through library orientation and seminars. However, the academic staff stated that they learned to use electronic resources through self-study and workshops, while the students also learned through self-study, friends and colleagues. This further buttress the fact that the library is not doing enough to make library users learn how to use the library electronic resources. The findings agree with the studies by Haridasan & Khan (2009), Madhusudhan (2010), Kumar & Kumar (2010), Kumar & Singh (2011), Hadagali, Kumbar, Nelogal & Bachalapur (2012), Peris and Peris (2012), Zafar (2013), Gakibayo & Okello-Obura (2013) that majority of the respondents learned to use electronic resources through self-study, classmates and colleagues. The current study clearly revealed that though some library users use the library electronic resources, a large percentage of library users do not use these resources. This may imply that the library has a weak or no awareness programme that promotes use of the library electronic resources.

5.7 Users' access to electronic resources in NOUN

The study sought to find out how academic staff and students access electronic resources at NOUN. The academic librarians were further asked to indicate the devices employed by library users to access electronic resources at NOUN. Majority of the academic librarians stated that library users access library electronic resources through the center library computer and through personal computer. Majority of the academic staff stated that they access library electronic resources through their personal computer and tablet. Majority of the students stated that they access library electronic resources through their personal computers and mobile phones. The study showed that

the academic staff and students make use of their personal devices to access library electronic resources and access these resources through their center library computers occasionally. This is an indication that library electronic resources can be accessed by library users within and outside the university premises. Access through library computers is low, which implies that library users rarely come physically to the library and are more comfortable accessing library resources from distant locations. The findings corroborate with the studies by Peris and Peris (2012), Baikady, Jessy & Shivananda (2014) and Bansal (2015) which stated that library users access electronic resources, thus eliminating the barrier of distance.

The academic staff and students were furthermore asked to indicate how easy it is for them to access electronic resources at NOUN. Majority of the academic staff respondents found it easy to access electronic newspapers, electronic journals and electronic dictionaries. Majority of the students found it easy to access electronic books, electronic dictionaries and electronic newspapers. The study also agreed with Oyewosi and Oyeboade (2009), Kumar & Kumar (2010), Ahmed (2013), Zafar (2013), Garg (2014) and Gupta & Sharma (2015) findings that majority of the respondents find it easy to access electronic resources. However, the finding revealed that over 30% of the respondents find it difficult to access electronic resources at NOUN. This was corroborated by Abdulwahab, Amusan & Umma (2009) that over 30% of the students were undecided about the ease of accessing electronic resources. Though majority of the respondents claimed to find accessing electronic resources easy, a sizable number of respondents claimed otherwise.

The respondents were asked to indicate the level of access to electronic resources available at NOUN. Access to full-text documents expose researchers to detailed information on a subject of interest for better understanding and representation of a phenomenon. Majority of the academic staff and students stated that they have access to full text and bibliographic information. This was in agreement with previous studies by Tripathi & Jeevan (2009), Ozoemelem (2009), Okello-Obura & Ikoja-Odongo (2010), Warraich & Ameen (2010), Okello-Obura (2011), Hadagali, Kumbar, Nelogal & Bachalapur (2012), Santhi & Radhakrishnan (2012), Joshua (2014), Qasim & Khan (2015) that reported that respondents had access to full text electronic resources. The study

showed that NOUN library subscribed to electronic resources with full text materials and library users could access them for their studies and research work.

The academic staff and students were asked to indicate reasons for not accessing electronic resources available at NOUN library. Majority (51%) of the academic staff and over 30% of students were not sure electronic resources exist in the library, they do not know how to access them, do not have internet connection and computers to access these electronic resources, and are not interested in them. However, 52% of students and 38% of academic staff stated that they know electronic resources exist in the library, they know how to access them, they have internet connection and computers to access them and that they have interest in them. This finding suggest that many academic staff and students were not accessing library electronic resources due to lack of awareness. The studies by Haridasan & Khan (2009), Deng (2010), Egberongbe (2011), Okello-Obura (2011), also reported that respondents were unsure of the existence of electronic resources, do not know how to access them, lack facilities required to access them, hence were not accessing them.

The academic librarians were asked to state the electronic resources library users can access. 89% and 74% of the academic librarians stated that library patrons can access electronic journals and electronic books respectively. This agrees with the studies by Okello-Obura & Ikoja-Odongo (2010), Swain (2010), Tahir, Mahmood & Shafique, (2010), Kumar & Singh (2011), Tyagi (2011), Thanuskodi (2011), Okello-Obura (2011), Natarajan & Revathi (2012), Okiki (2012), Ahmed (2013), Oyedapo & Ojo (2013), Kwafoa, Imoro & Afful-Arthur (2014) that reported that library users access library electronic resources such as electronic journals and electronic books at the library. The findings revealed that a low percentage of academic staff and students access full-text documents through their personal devices. Also, a substantial percentage of academic staff and students are unaware of the existence of the library electronic resources and do not access them. This implies that the library electronic resources and are not fully utilized by library users.

5.8 Frequency of access of electronic resources available in NOUN

The study sought to know how often academic staff and students access electronic resources in NOUN library. Majority (93%) of the academic staff stated that they frequently access electronic

journals, while majority (58%) of the students frequently access electronic books. This agrees with findings by Haridasan & Khan (2009), Deng (2010), Ge (2010), Bhatia (2011), Egberongbe 2011), Gupta (2011), Dhanavandan, Esmail & Nagarajan (2012), Khan & Ahmed (2013), Zafar (2013), Ahmed & Amjad (2014), Joshua (2014), Gupta & Sharma (2015) that students, research scholars and faculty members frequently access library electronic resources. The frequency of access to other available electronic resources apart from electronic books by students was not encouraging, as the percentage of those frequently accessing other available electronic resources ranges between 15% and 46%. The findings found that majority of the students access electronic books while the academic staff access electronic journals. The implies that students access library electronic resources mainly to study, while academic staff access these resources for research and publications.

The respondents were asked to indicate the venue of access. Majority (79%) of the academic staff access electronic resources at work, while 75% of students access electronic resources at home. This showed that the academic staff find it convenient to access the electronic resources at work, while students preferred accessing electronic resources in the comfort of their homes. Studies by Deng (2010), Oduwole & Oyewunmi (2010), Okello-Obura & Ikoja-Odongo (2010), Okello-Obura (2011), Thanuskodi (2011), Peris & Peris (2012), Wu & Chen (2012), Natarajan & Revathi (2012), Garg (2014), Gupta & Sharma (2015), Dadzie & Walt (2015) reported that respondents also accessed library electronic resources at places outside of the library premises. The findings revealed that academic staff and students were not restricted by location and distance to access library electronic resources. Available resources in the library are accessible but the library is embattled by low patronage of these resources.

5.9 Library policies and infrastructures that enable the use of electronic resources in NOUN

The study sought to find out the policies and infrastructure that can enable the use of electronic resources by academic staff and students. The proper funding of the library aids the development and implementation of library policies required to establish adequate infrastructures that enable the use of electronic resources. Hence, the study wanted to know what can be done to combat the issue of insufficient funds which hinder the use of electronic resources. The majority 96% of the

academic librarians and 82% of academic staff agreed that requesting the university management to increase library budget could enhance the use of the library electronic resources; 74% of the academic librarians and 76% of academic staff agreed that engaging in joint acquisition with other libraries to reduce subscription cost increase the volume of electronic resources available for use. However, 46% of academic librarians and 51% of academic staff are not in support of the reduction of electronic resources acquisition as a way of combating the issue of insufficient funds. Previous studies by Erich (2013), Khan & Ahmed (2013), Ahmed (2014), Ahmed & Amjah (2014) opined that well-articulated budgets; formation of a consortium that focus on joint acquisitions of electronic resources among university libraries; concise collections and infrastructural development plans entrenched into library policies can combat the issue of insufficient funds. This implies that the implementation of policies that support adequate funding of the library infrastructures, electronic resources subscriptions, and multiple libraries collaborations on electronic resources subscriptions could improve the use of these resources and access to these resources.

The respondents were asked what library roles can assist educational and research activities at NOUN. Majority (over 95%) of academic librarians and academic staff agreed that the use of NOUN library electronic resources for the purpose of education and research can be greatly enhanced by organizing quality library staff development programme for better library service delivery; organizing information literacy programme for library users and embarking on yearly orientation programme for new library users to create awareness on available library collections; subscribing to electronic resource relevant to users' need to encourage the use of library electronic resources; regularly investing in new technologies and maintaining library infrastructures for better service delivery; employing IT skilled library staff to facilitate the use of these resources; creating feedback mechanisms to track users complaints and proffer solutions for optimal utilization of electronic resources and improve service delivery; forming consortiums to reduce cost of electronic resources subscriptions and create a more robust electronic resource collections by participating libraries; embarking on long-term access to electronic resources to boost the utilization of these resources; and the creation of electronic resources collections development policy to improve educational and research activities at NOUN. These same views were also shared by Gandhi (2003), Warraich & Ameen (2010), Thanuskodi (2011), Tyagi (2011), Erich

(2013), Khan & Ahmed (2013). The implications of these library roles are better utilization of available electronic resources, greater academic and research output in terms of quantity and quality, increase awareness and consistent access to NOUN library electronic resources.

5.10 Perceptions and attitudes of academic staff and students regarding the library's electronic resources

The study sought to find out the perception and attitude of academic staff and students toward library electronic resources. The academic staff and students were asked to indicate how important electronic resources in NOUN library are to their research work/study. Majority, 94% of the academic staff stated that electronic journals are important to their research work/study, while over 70% indicated that electronic books and institutional repositories are important to their research work/study. Majority (70%) of students stated that electronic books are important to their research work/study, while over 60% indicated that electronic journals and electronic theses/dissertations are important to their research work/study. Previous studies by Oyewusi & Oyeboade (2009), Ge (2010), Warraich & Ameen (2010), Wu & Chen (2012), Gupta & Sharma (2015) reported that respondents classified electronic resources such as electronic journals, books, thesis/dissertation and institutional repositories as important tools in research work/study. This showed that academic staff and students have positive perception and attitude to the use of the library electronic resources and recognize the importance of these resources to their studies and research works.

The respondents were asked to indicate features of the electronic resources that are most important for research work/study. Majority, 95% of the academic staff identified access to current/up-to-date information, while over 85% selected improves quality of research work/study and ability to download full text as features of the electronic resources that are most important for research work /study. Majority (77%) of students selected access to current/up-to-date information, while over 70% chose ability to download full text and availability of relevant information as features of the electronic resources that are most important for research work /study. Previous studies by Deng (2010), Ge (2010), Madhusudhan (2010), Warraich & Ameen (2010), Ranganathan (2011), Ahmed (2013), Qasim & Khan (2015) also reported that respondents considered similar features of electronic resources as important for their research work/study. This implies that academic staff and students use library electronic resources because of the perceived features and importance they

attach to these resources with respect to their research works and studies. Previous studies cited above also corroborate with this finding.

The respondents were asked to give their perceptions of electronic resources available at NOUN library. 62% of academic staff were not sure, while 51% of students disagreed with the statement that "electronic resources are not updated"; 55% of academic staff and 37% of students were not sure with the statement that "it takes too much time to find relevant electronic resources"; 51% of academic staff were not sure, while 48% of students disagreed with the statement that "electronic resources are not always accessible"; 50% of academic staff indicated were not sure, while 49% of students disagreed with the statement that "what I find from electronic resources is not what I need"; 39% of academic staff disagreed, while 38% of students agreed with the statement that "there are too many electronic resources". From the percentage of responses, majority (46%) of the students have a positive perception of the library's electronic resources, while a greater number (51%) of academic staff were not sure and seem not to have a clear view of electronic resources in the library. There is a big awareness gap here as it suggests that there are limitations to the use of the library electronic resources and the library need to repackage the awareness programme to improve the perception of library patrons and encourage the use of library electronic resources. Previous studies by Mawindo & Hoskins (2008), Deng (2010), Ge (2010), Dhanavandan, Esmail & Nagarajan (2012), Gakibayo & Okello-Obura (2013) reported respondents' poor perception of library electronic resources because they were not familiar with the resources because of inadequate awareness.

The respondents were asked to state how satisfied they are with the electronic resources available at NOUN library. Majority (88%) of the academic staff were satisfied with electronic journals and electronic books, while 70% of the students were satisfied with electronic books. This implies that the academic staff and students that use the library electronic journals and electronic books are satisfied with the information retrieved from these electronic resources. However, the students seem to be more interested in the use of electronic books for education while the academic staff seem to focus more on the use of electronic journals and books for research and publications. Previous studies by Haridasan & Khan (2009), Kumar & Singh (2011), Kumar & Ansari (2011), Dhanavandan, Esmail & Nagarajan (2012), Obasuyi (2012) Amjad, Ahmed & Naeem (2013),

Khan & Ahmed (2013), Zafar (2013), Ahmed & Amjad (2014), Kwafoa, Imoro & Afful-Arthur (2014), Dadzie & Walt (2015), also established that respondents were satisfied with available electronic resources in their libraries.

The respondents were further asked to indicate if they preferred electronic resources to print resources in carrying out their research work/study. Majority of the academic staff (92%) and students (75%) indicated that they preferred electronic resources in carrying out their research work/study. However, over 70% of academic staff and student indicated the they preferred both electronic resources and print resources in carrying out their research work/study. Previous studies by Mawindo & Hoskins (2008), Ge (2010), Kumar & Kumar (2010), Tahir, Mahmood & Shafique, (2010), Egberongbe (2011), Peris & Peris (2012), Natarajan & Revathi (2012), Bansal (2015), Gupta & Sharma (2015) reported similar result. The current study revealed that in as much as electronic resources have become very relevant in academic work and research, the print resources have remained a front burner in the acquisition of knowledge. Though print resources are still very relevant, they have limitations of barriers of space and time which electronic resources have been able to overcome. The digitization of print resources however as made it possible for distant learners to use them without being physically present in the library. This advantage over print resources has made the academic staff and students show more preference to the use electronic resources.

The respondents were asked to evaluate NOUN library electronic resources. Over 90% of academic staff find electronic journals, electronic dictionary and electronic books useful, while over 70% of the students find electronic books, electronic journals and electronic thesis/dissertation useful. This implies that the use of library electronic resources is making positive impact in the academic pursuit of the academic staff and students of NOUN.

5.11 Challenges encountered by library users while accessing and using library electronic resources

The study sought to find out the challenges faced by library users while accessing and using library electronic resources. Majority of the academic librarians responded and identified electricity outage, high cost of providing alternative power supply and low internet connectivity speed as

challenges that the library face while providing access to electronic resources. Majority of the academic staff and students indicated electricity outage, low internet connectivity speed and high cost of access to internet as challenges they encounter while accessing and using electronic resources. Previous studies by Mawindo & Hoskins (2008), Ozoemelem (2009), Kumar & Kumar (2010), Kumar & Singh (2011), Okello-Obura (2011), Sharma, Singh & Sharma (2011) (2011), Thanuskodi (2011), Dhanavandan, Esmail & Nagarajan (2012), Peris and Peris (2012), Amjad, Ahmed & Naeem (2013), Khan & Ahmed (2013), Zafar (2013), Damilola (2013), Ahmed & Amjad (2014), Garg (2014), Kwafoa, Imoro & Afful-Arthur (2014), Oyewo & Bello (2014) reported inadequate power supply, slow Internet connection and high cost of Internet access as some of the challenges faced by respondents while accessing and using library electronic resources. It is obvious that university libraries, especially in developing countries have been plagued with non-functioning and dilapidated infrastructures that are required to promote the use of electronic resources. These numerous challenges hinder the access and use of the NOUN library electronic resources.

5.12 Chapter Summary

Chapter five discusses the research findings presented in chapter four. The respondents were asked to answer questions on availability of electronic resources in NOUN, level of awareness, tools used in creating awareness, types of electronic resources used by respondents, accessibility of electronic resources, the mode of access, place of access, frequency of access, the policies and infrastructures that enable the use of electronic resources, perception of respondents of the library electronic resources and challenges encountered by respondents while accessing and using the library electronic resources.

The study revealed that NOUN library electronic resources are available and accessible but the level of respondents' awareness was low and those who were able to access and use the electronic resources were faced with myriad of challenges which resulted in poor usage of NOUN library electronic resources. The respondents suggested policies and library roles that could improve access to and usage of library electronic resources, and assist educational and research activities.

CHAPTER SIX
SUMMARY, CONLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This study presented and discussed the findings of an investigation on the extent of access and use of library electronic resources by academic staff and students of the National Open University of Nigeria. Chapter One presented the background of the study which include general introduction, the presentation of research problem, aims, objectives and questions. The aim of this study was to investigate the extent of access and use of library electronic resources by students and staff of the National Open University of Nigeria, Abuja, Nigeria. The study was conducted because there was lack of evidence of the extent of accessibility and use of NOUN library electronic resources and very little was known about the accessibility and use of these resources by academic staff, students and any other university community members for whom the resources are meant. The following specific objectives served as a guide to the study, namely to:

1. find out the different types of electronic resources available in the NOUN Library;
2. investigate academic staffs' and students' level of awareness of electronic resources available in the NOUN library;
3. explore the various types of electronic resources used by academic staffs and students of NOUN;
4. find out how academic staffs and students access and use electronic resources in NOUN library;
5. analyze the policies that enable access to and use of electronic resources by academic staffs and students at NOUN;
6. find out the perceptions and attitudes of academic staffs and students toward the electronic resources available in the NOUN library; and
7. identify the challenges associated with access to and use of electronic resources by the academic staffs and students of NOUN.

Chapter Two reviewed existing literature on studies relating to this investigation. The methodology approach employed in the study which include research approach, design, and site, target

population, sampling procedures and methods, sample frame and size, respondent's selection and data collection method, analysis, and ethical consideration was presented in chapter three. Chapter four presented the research findings while chapter five discusses the research findings presented in chapter four. This chapter summarizes the study as well as present the conclusions and recommendations of the study. Suggestions for further research are also presented at the end of this Chapter.

6.2 Summary of the findings

The summary of the study findings based of three parameters; the data presented in chapter four, the analysis of the data in chapter five, and the objectives of the study is as follows:

6.2.1 Types of electronic resources available in NOUN

The academic librarians were asked to indicate the types of electronic resources available in NOUN. Majority (over 60%) indicated that electronic journals, electronic books and CD databases are available in NOUN library. NOUN library grants access to electronic resources used by academic staff and students.

6.2.2 Users' awareness of NOUN library electronic resources

With respect to users awareness, the study revealed that over 70% of academic staff were aware of NOUN library electronic resources through library staff, while 53% through personal discovery. However, 60% of the students learned about library electronic resources through personal discovery.

On the issue of effectiveness of methods of awareness, majority (over 80%) of the academic staff agreed that awareness through library staff was effective while majority (66%) of the students agreed that awareness through peers was effective. It is evident that users awareness is poor as the method through which respondents were aware of library resources is highly inadeaquate. This has negatively affected the usage of NOUN library electronic resources.

In addition, the study sought to know the tools library use to create awareness. Majority (78%) of academic librarians selected electronic mail, 74% of academic staff selected notice boards, while 57% of students selected electronic mail. However, when asked to suggest modern tools that could

be used by the library to effectively create awareness, majority (96%) of academic librarians chose electronic mail and facebook, 99% of academic staff and 84% of students selected electronic mail.The use of modern tools in the creation of awareness would greatly enhance the use of NOUN library electronic resources.

6.2.3 Electronic resources used by academic staff and students

The findings discovered that majority (38%) of academic staff use electronic journals twice weekly, 29% consult electronic books once weekly. Majority (33%) of students use electronic newspaper twice weekly, majority rarely consult electronic books (28%) and electronic journals (37%).

With respect to purpose of use of NOUN library electronic resources, the study revealed that majority of the academic staff (87%) and students (72%) often use the electronic resources for further studing on subject of interest.

On the motivating factors for the usage of NOUN library electronic resources, majority (92%) of the academic librarians indicated that users use electronic resources because of up to date information, majority (95%) of academic staff use these electronic resources for research work, while 82% of students indicated ease of use as motivating factor for the usage of electronic resources.

The study sought to find out reasons for non-usage of library electronic resources, it was revealed that over 50% of both academic staff and students were not sure if the electronic resources exist. They do not know how to use electronic resources, do not know where to find them, do not know if they are useful and are not interested in these electronic resources.

With respect to how academic staff and students learned to use NOUN electronic resources, majority (88%) of the academic librarians indicated that library users learned to use electronic resources through new intake orientation programme, while majority (over 80%) of academic staff and students indicated that they learn to use electronic resources through self study.

6.2.4 How academic staffs and students access electronic resources at NOUN

In terms of academic staff and students' access to electronic resources, the study sought to find out how academic staff and students access electronic resources at NOUN. Regarding the devices used to access these electronic resources, majority (89%) of the academic librarian indicated that library users access electronic resources from the center library computer. Majority (over 80%) of the academic staff and students access electronic resources through their personal computers. With respect to ease of access, the findings revealed that majority (87%) of the academic staff find it easy to access electronic newspaper, 81% find it easy to access electronic journals, The majority (67%) of students find it easy to access electronic books, 59% find it easy to access electronic dictionary.

The study revealed that majority of the academic staff and students have access to fulltext materials in NOUN library electronic resources. 85% of academic librarian, 95% of academic staff and 72% of students attested to this level of access.

On why users were unable to access NOUN electronic resources. The majority of academic staff (51%) were unsure if electronic resources are available at NOUN library, while majority of the students (52%) agreed that they access library electronic resources. On the type of electronic resources library users can access, majority (89%) of the academic librarians indicated that library users can access electronic journals, 74% can access electronic books. With respect to frequency of access, majority (93%) of academic staff access electronic journals, and 73% electronic books. The majority (58%) of students access electronic books, and 45% access electronic journals. The study also revealed that majority (79%) of the academic staff access electronic resources at work, while majority of the students (75%) access electronic resources at home.

6.2.5 Library policies and infrastructure that enable the use of electronic resources

The study sought to find out the policies and infrastructure that can enable the use of electronic resources by academic staff and students The majority (96%) of the academic librarians and the academic staff (82%) agreed that requesting the university management to increase library budget could enhance the use of the library electronic resources. However, 74% of the academic librarians

and 76% of academic staff agreed that engaging in joint acquisition with other libraries would save cost, increase volume of subscriptions and improve the use of the library electronic resources.

Regarding library roles that can assist educational and research activities, majority (100%) of the academic librarians indicated organising quality library staff development programme, organising information literacy programme for library users, subscribing to electronic resource relevant to users' need and embarking on yearly orientation programme for new library users. Majority (98%) of the academic staff indicated subscribing to electronic resource relevant to users' need and organising information literacy programme for library users. These library roles could improve the use of NOUN library electronic resources, and assist educational and research activities if properly implemented by the library management with the support of the university.

6.2.6 The perception and attitude of academic staff and students towards electronic resources

With respect to the importance of NOUN library's electronic resources, majority (94%) of the academic staff stated that electronic journals are very and extremely important, 85% and 73% indicated electronic books and institutional repositories respectively. The majority (70%) of the students stated that electronic books are very and extremely important, 64% electronic journals, and 60% electronic thesis/dissertation.

Regarding the features of electronic resources library users considered to be most important for research work and study, the majority (95%) of academic staff selected access to current/up-to-date information, (92%) improves quality of research work/study, while (89%) ability to download full text. The majority (77%) of the students indicated access to current/up-to-date information, (76%) availability of relevant information, while (75%) ability to download full text and access to wider range of information.

Academic staff and students' perception of the electronic resources available at NOUN library were below average as reflected from their views: 26% of academic staff disagreed that it takes too much time to find relevant electronic resources while 19% agreed, 39% disagreed that there are too many electronic resources while 29% agreed, 38% disagreed that electronic resources are

not always accessible while 11% agreed, 35% disagreed that electronic resources are not updated while 3% agreed, and 42% disagreed on what I find from electronic resources is not what I need while 8% agreed. On the students' perception, 36% of students disagreed that there are too many electronic resources while 38% agreed, 37% disagreed that it takes too much time to find relevant electronic resources while 25% agreed, 48% disagreed that electronic resources are not always accessible while 16% agreed, 49% disagreed on what I find from electronic resources is not what I need while 7% agreed, 51% disagreed that electronic resources are not updated while 12% agreed. The use of NOUN library electronic resources is below average due to poor perception of academic staff and students. Though academic staff and students appreciate the importance and features of electronic resources, this does not reflect in their perception of NOUN library electronic resources.

With respect to academic staff and students' satisfaction with the electronic resources available at NOUN library; the findings revealed that majority (88%) of the academic staff were satisfied with the use of electronic journals and electronic books, while (70%) of students were satisfied with the use of electronic books, and 63% satisfied with electronic journals.

Regarding academic staff and students' choice of resources; the study discovered that majority of academic staff and students use electronic resources to carry out their research work/study. Though over 70% of academic staff and students preferred both print and electronic resources.

On the evaluation of the electronic resources in NOUN library; the findings revealed that majority (over 90%) of academic staff find electronic journals, electronic dictionary and electronic books useful. Also, majority (over 70%) of the students find electronic books, electronic journals and electronic thesis/dissertation useful. Majority who could access and use NOUN library electronic resources found them useful.

6.3 Challenges encountered by academic staff and students while accessing and using the library electronic resources

Focussing on the challenges encountered by the library while providing access to electronic resources, majority (over 80%) of the academic librarians indicated electricity outage, high cost of providing alternative power supply and low internet connectivity speed.

With respect to challenges faced by academic staff and students while accessing and using the library electronic resources, majority (over 80%) of the academic staff indicated electricity outage and low internet connectivity speed, 70% indicated cost of access to internet is high. The majority (73%) of the students indicated low internet connectivity speed, over 60% indicated electricity outage and cost of access to internet is high.

6.4 Conclusions

The research findings have been discussed in chapters four and five, and this section provides the following conclusions based on the research objectives:

- The electronic resources available at NOUN library and are accessible include: electronic journals and electronic books.
- Academic staff and students' awareness of NOUN library electronic resources was very poor, as the majority were aware of library electronic resources through self-effort and one-on-one interaction with the library staff. This inadequate method of awareness has hampered the use of NOUN library electronic resources which was below average. The electronic mail was recommended as the most basic modern tool for creating effective awareness among academic staff and students.
- Majority of the academic staff and students consult electronic resources for further studies on subject of interest and are motivated to use NOUN library electronic resources because it has up-to-date information, and it is easy to use. Non-usage of electronic resources was due to lack of awareness as academic staff and students learned to use electronic resources through self-study.

- Personal computers and miniature devices such as tablets and phones were employed to access and use NOUN library electronic resources. The academic staff and students have access to full text electronic resources and find electronic newspapers, electronic journals and electronic books easily accessible. Academic staff access and use electronic journals mostly at work, while the students access and use electronic books at home.
- Library policies geared towards combating insufficient funds in order to promote the use of electronic resources should be implemented, these include: increasing library budget, soliciting for donations from alumni of the university and engaging in joint acquisition with other libraries. To assist educational and research activities, organising quality library staff development programme and subscribing to electronic resources relevant to users'need are germane to improve the use of NOUN library electronic resources.
- Majority of the academic staff and students have a poor perception of the library electronic resources, though they considered "current up-to-date information" feature of electronic resources to be the most important for their research work and study. The general perception of NOUN library electronic resources was below average. Majority of the academic staff and students were satisfied with electronic journals and books and preferred to access and use these electronic resources because they find them useful.
- The library, academic staff and students encounter electricity outage and low internet connectivity speed while providing access, or accessing and using electronic resources.

6.5 Recommendations

The findings of the study revealed poor awareness, access and use of NOUN library electronic resources. Therefore, the following recommendations are proposed below:

1. The library management should develop an effective and efficient awareness programmes that is appropriate for an ODL university community through the use of modern communication tools such as the social media platforms.
2. The university management should introduce the use of library in the university curriculum with emphasy on the use of electronic resources and information literacy skills.
3. The university management should provide adequate funds for electronic resources subscription and this should be consistent.
4. The library management should subscribe to electronic resources relevant to users' need.

5. The university management should equip all NOUN libraries with computers in order to improve patronage to the library and use of the library electronic resources.
6. Qualified librarians should be employed and regular training organized to keep abreast with the dynamic modern library science practice.
7. The Federal government should provide an enabling environment and infrastructure for seemless library service operations. This includes the provision of affordable and sustainable power supply.
8. The university should provide high speed internet connectivity in all NOUN libraries

6.6 Implications of the findings on remote access and use of resources at NOUN

According to the study findings, NOUN library has electronic journals and books which implies that users do not have to be physically present in the library but can conveniently access library resources at any time and location; however, for print resources, they would have to visit the library. It also means that minimal space would be required for users' sitting space and physical library collections and the library does not need to expand building facilities.

The fact that users' awareness of NOUN library electronic resources is poor according to the study findings, distant users at NOUN may not benefit from the rich and robust contents available in electronic resources for the purpose of study/research because they are unaware and cannot access these resources. The use of modern communication tools such as electronic mails and text messages (sms) as suggested in the study for creating awareness will improve users' (especially remote users at NOUN) usage of NOUN library electronic resources and result in better academic performance and study/research output. The patrons' non-usage of library electronic resources, as revealed in the study may result in poor quality and quantity of research/study output; longer time would be spent getting information as users would have to physically visit the library with limited sitting space to consult available library collections which are limited in scope, current publication dates and contents. Users' efficiency and effectiveness is greatly hampered by regorous activities they engage in to get required information for the purpose of study/research. The study found that users access fulltext materials from their personal devices outside the university library, a situation that translates to reduction of users' visits to the library as majority of their information needs are met online. With the implementation of suggested library policies and infrastructure development,

remote users at NOUN will have access to more electronic resources and better infrastructure that will improve learning and produce better research output. However, the users' poor perception of NOUN library electronic resources implies that a large percentage of remote users at NOUN have not been fully integrated to the use of electronic resources and are disenfrachised from the benefits electronic resources have to offer in research/study. Just a few users who had one on one contact with library staff or made self effort to be aware of NOUN library electronic resources have positive perception that results in the access and usage of these library electronic resources. Users cited challenges such as power outage, low internet connectivity speed and high cost of internet access as factors hindering access to and use of electronic resources which implies that the remote users at NOUN may end up making regular library visits which will in turn reduce study/research efficiency; bring about poor study time management and poor academic performance.

6.7 Chapter Summary

This chapter presents the summary and conclusion of the findings in chapter four and five based on the objectives of the study.

The study established that NOUN library provides access to electronic resources to the academic staff and students who use these electronic resources. Electronic journals and books were discovered to be the major electronic resources available at NOUN library. However, the usage was found to be below average as very few academic staff and students were aware of the existence of electronic resources in the library and access and use them. The poor awareness was found to be caused by poor sensitization and awareness programme by the library as respondents claimed they were aware of library electronic resources through the library staff and self-study.

The study established that academic staff and students access and use electronic journals and books frequently at work and at home respectively. The policies that could make level of usage increase were presented in section 6.2.5 while library roles that could improve educational and research activities were discussed in secton 6.2.6.

It was also revealed that the perception and attitude of academic staff and students on library electronic resources was below average. Though they claimed to be satistified with library

electronic resources, especially electronic journals and books which they evalauated as been useful for their study and research work. The study found that academic staff and students preferred both electronic and print resources.

The library, academic staff and students are confronted with challenges hindering access and use of the electronic resources. Electricity outage was highly rated as a major challenge, and then, low internet connectivity speed.

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Appendix One: Questionnaire Cover Letter

UNIVERSITY OF SOUTH AFRICA (UNISA)

INFORMATION SCIENCE DEPARTMENT

ACCESS TO AND USE OF LIBRARY ELECTRONIC RESOURCES AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA (NOUN)

INTRODUCTION

Dear Respondents,

I am currently a postgraduate student in the above-named institution where I am pursuing a Masters degree in Information Science. My research topic is Access to and Use of Library Electronic Resources at The National Open University of Nigeria (NOUN). Your selection to participate in this research was scientifically determined through stratified and systematic random sampling. I, therefore, look forward to your support in this noble cause.

Please note that your views in this questionnaire shall not be, in any way, used for any other purpose rather than for the advancement of this study. You are therefore assured that your views on the content of this questionnaire shall not be used in any way that might cause damage to your reputation as an individual or otherwise, integrity, emotions, or indeed professional conduct as the information provided will be treated with high level of confidentiality. Individual responses will not be identifiable as they will be treated in aggregate when reporting the findings. Furthermore, please take note that your participation in this research is voluntary.

Thank you.

Oluwaseun Babarotimi Opeyemi

Appendix Two: Questionnaire (Students)

SECTION A: PERSONAL DETAILS

1. Faculty……..……..…
2. Department……..…….……
3. Study Center ……..
4. Level of study 400 Level ☐ 500 Level ☐ PGD ☐
   Masters ☐ PhD ☐
5. Your age range
   < 24 years ☐ 25-29 years ☐ 30-34 years ☐
   35-39 years ☐ 40-44 years ☐ 45-49 years ☐ > 50 years ☐
6. Your gender
   Female ☐ Male ☐

SECTION B: STUDENTS AWARENESS OF ELECTRONIC RESOURCES PROVIDED BY THE LIBRARY

7. I Learnt about the availability of electronic resources in NOUN library through:
   Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	A Friend					
3	Library Staff					
4	My Lecturers					
5	Other Coursemates					
6	Student Orientation					
7	Direct Mailing To Student					
8	The Electronic Library Webpage					
9	Electronic Mail					

10	Library Social Media Tools (e.g. Facebook, Twitter, etc)					
11	Others Specify					

Any other, please specify ……..……

8. In your opinion, how will you rate the way students get to know about electronic resources?

   Please select the appropriate options below by ticking (√) in the spaces provided

S/N		Not Effective	Somewhat Effective	Effective	Very Effective	Most Effective
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	From Friends					
3	From Library Staff					
4	From Lecturers					
5	From Other Coursemates					
6	New Students Orientation Programme					
7	Direct Mailing To Students					
8	Through The Electronic Library Webpage					
9	Through Electronic Mail					
10	Through Social Media Tools					
11	Others Specify					

Any other, please specify ……..……

9. The Library use the following tools to create awareness on electronic resources:

   Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)

1	Flyers					
2	Notice Boards					
3	Electronic Mail					
4	Twitter					
5	Facebook					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Library handout					
10	Others Specify					

Any other, please specify ……

10. Do you agree that modern tools (such as facebook, twitter, email, etc) are effective means of creating electronic resources awareness in the library

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Facebook					
2	Twitter					
3	Flicker					
4	Blogs					
5	Email					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Myspace					
10	Ning					
11	YouTube					

12	Others Specify					

Any other, please specify …….

SECTION C: HOW STUDENTS ACCESS ELECTRONIC RESOURCES

11. The Library provides the following level of access to electronic resources to students:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Full Text					
2	Abstract Only					
3	Bibliographic (Title, Author, Place, Year) Information					

12. The Library provides access to electronic resources but

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	I do not know they exist					
2	I do not know how to access them					
3	I do not have a computer to access them					
4	I do not have internet access					
5	I do not have interest in them					
6	Others Specify					

Any other, please specify ……..

13. How easy is it for you to locate the electronic resources you need?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Very Difficult	Difficult	Undecided	Easy	Very Easy
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Other Specify					

Any other, please specify ……

14. What device do you often use when accessing electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	Personal Computer					
2	Mobile Phone					
3	Tablet					
4	Center Library Computer					
5	Others Specify					

Any other, please specify ……..…

15. How often do you access electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..…

16. How often do you access electronic resources from the following venues?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	At Home					
2	At Work					
3	Center Library					
4	At Café					
5	Others Specify					

Any other, please specify ……..…

SECTION D: USE OF ELECTRONIC RESOURCES BY STUDENTS

17. How long have you been using these electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

Rarely	Less than One year	One year	Two years	More than two years
(1)	(2)	(3)	(4)	(5)

18. How frequently do you use these electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Rarely	Monthly	Once Weekly	Twice Weekly	Daily
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..…

19. How often do you make use of the electronic resources for the following purposes?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	For Publications					

2	For Preparation Of Workshop/Seminar Paper					
3	For Writing Of Thesis/Dissertation					
4	For Writing Term Paper And Coursework Assignment					
5	For Further Studying On Subject Of Interest					
6	For Information Retrieval					
7	For Recreation					
8	Others Specify					

Any other, please specify ……..…

20. Which of the following best describes your extent of agreement regarding the motivating factors for your usage of electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Ease Of Use					
2	Up To Date Information					
3	Speed Of Information					
4	Ability To Download Fulltext					
5	Availability Of Relevant Information					
6	For Information Retrieval					
7	For Recreation					
8	For Research Work					
9	Others Specify					

Any other, please specify ……..…

21. I am currently not using library electronic resources because:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	I do not know where to find them					
2	I do not know how to use them					
3	I do not find them useful					
4	I do not have interest in them					
5	I do not know they exist					
6	Others Specify					

Any other, please specify ……..

22. I learned how to use electronic resources through:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Self Study					
2	Friends and Colleagues					
3	New Intake Orientation Programme					
4	Seminars					
5	Workshops					
6	Library Handbook					
7	Online Library Tours					
8	Information Literacy Course					
9	Library Week					
10	Others Specify					

Any other, please specify ……..

SECTION E: THE PERCEPTIONS AND ATTITUDE OF STUDENTS TOWARD LIBRARY ELECTRONIC RESOURCES

23. How important do you think are the electronic resources for your research work/study?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Unimportant	Somewhat Important	Important	Very Important	Extremely Important
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

24. Which features of electronic resources do you consider to be the most important for your research/study?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Unimportant	Somewhat Important	Important	Very Important	Extremely Important
		(1)	(2)	(3)	(4)	(5)
1	Access To Current/Up-To-Date Information					

2	Ability To Download Fulltext					
3	Quick Information Retrieval					
4	Availability Of Relevant Information					
5	Improves Quality Of Research Work/Study					
6	Increases Quantity Of Research Work/Study					
7	Access To Wider Range Of Information					
8	Others Specify					

Any other, please specify ……..

25. Do you agree with the following statements?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(5)	(4)	(3)	(2)	(1)
1	What I Find From Electronic Resources Is Not What I Need					
2	There Are Too Many Electronic Resources					
3	Electronic Resources Are Not Updated					
4	It Takes Too Much Time To Find Relevant Electronic Resources					
5	Electronic Resources Are Not Always Accessible					
6	Others Specify					

Any other, please specify ……..

26. How satisfied are you with the library electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Very Dissatisfied	Dissatisfied	Undecided	Satisfied	Very Satisfied
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

27. What is your general evaluation of the library electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Not at all Useful	Not Useful	Not Sure	Useful	Very Useful
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					

5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

28. I prefer:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	5)
1	Electronic Resources in carrying out my research work/study					
2	Print Resources in carrying out my research work/study					
3	Both					
4	None					

SECTION F: THE DIFFICULTIES ENCOUNTERED BY STUDENTS WHILE ACCESSING AND USING LIBRARY ELECTRONIC RESOURCES

29. What are the main problems you face when accessing electronic resources?

Please select as many options as they apply to you.

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	5)
1	Electronic resources is not remotely accessible					
2	Electricity outage					
3	Low internet connectivity speed					
4	Lack of internet access in the library					
5	Cost of access to the internet is high					
6	Slow download speed					
7	Lack of online search skills					
8	Lack of knowledge about advanced searching techniques					
9	Difficulty in finding relevant information					
10	Difficulty in reading from the monitor					
11	Lack of training or orientations on the use of library electronic resources					
12	Lack of knowledge about email alert and RSS services					
13	Inadequate awareness on the availability of electronic resources					
14	Limited access to library electronic resources					

15	Insufficient computers in the library					
16	Shortage of librarians to assist in the use of library electronic resources					
17	Limited library hours to use electronic resources					
18	Too much information is retrieved when a search is initiated					
19	Insufficient time to access electronic resources due to work overload					
20	Others Specify					

Any other, please specify ……..

Appendix Three: Questionnaire (Academic Staff)

SECTION A: PERSONAL DETAILS

1. Faculty……..……..…
2. Department……..…….……
3. Academic Qualification

   PhD ☐ Masters ☐ Bachelor Degree ☐

4. Your age range

   < 24 years ☐ 25-29 years ☐ 30-34 years ☐

   35-39 years ☐ 40-44 years ☐ 45-49 years ☐ > 50 years ☐

5. Your gender

   Female ☐ Male ☐

SECTION B: ACADEMIC STAFF AWARENESS OF ELECTRONIC RESOURCES PROVIDED BY THE LIBRARY

6. I Learnt about the availability of electronic resources in NOUN library through:

   Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	A Friend					
3	Library Staff					
4	Other Colleagues					
5	Staff Orientation					
6	Direct Mailing To Staff					
7	The Electronic Library Webpage					
8	Electronic Mail					
9	Library Social Media Tools (e.g. Facebook, Twitter, etc)					
10	Others Specify					

Any other, please specify ……..

7. In your opinion, how will you rate the way academic staff gets to know about electronic resources?

   Please select the appropriate options below by ticking (√) in the spaces provided

S/N		Not Effective	Somewhat Effective	Effective	Very Effective	Most Effective
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	From Friends					
3	From Library Staff					
4	From Other Colleagues					
5	New Staff Orientation Programme					
6	Direct Mailing To Staff					
7	Through The Electronic Library Webpage					
8	Through Electronic Mail					
9	Through Social Media Tools					
10	Others Specify					

Any other, please specify ……..

8. The Library use the following tools to create awareness on electronic resources:

   Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Flyers					
2	Notice Boards					
3	Electronic Mail					
4	Twitter					

5	Facebook					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Library handout					
10	Others Specify					

Any other, please specify ……..…

9. Do you agree that modern tools (such as Facebook, Twitter, Email, etc) are effective means of creating electronic resources awareness in the library

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Facebook					
2	Twitter					
3	Flicker					
4	Blogs					
5	Email					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Myspace					
10	Ning					
11	YouTube					
12	Others Specify					

Any other, please specify …….

SECTION C: HOW ACADEMIC STAFF ACCESS ELECTRONIC RESOURCES

10. The Library provides the following level of access to electronic resources to academic staff:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Full Text					
2	Abstract Only					
3	Bibliographic (Title, Author, Place, Year) Information					

11. The Library provides access to electronic resources but

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	I do not know they exist					
2	I do not know how to access them					
3	I do not have a computer to access them					
4	I do not have internet access					
5	I do not have interest in them					
6	Others Specify					

Any other, please specify ……..

12. How easy is it for you to locate the electronic resources you need?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Very Difficult	Difficult	Undecided	Easy	Very Easy
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					

4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Other Specify					

Any other, please specify ……

13. What device do you often use when accessing electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	Personal Computer					
2	Mobile Phone					
3	Tablet					
4	Center Library Computer					
5	Others Specify					

Any other, please specify ……..…

14. How often do you access electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					

3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..…

15. How often do you access electronic resources from the following venues?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	At Home					
2	At Work					
3	Center Library					
4	At Café					
5	Others Specify					

Any other, please specify ……..…

SECTION D: USE OF ELECTRONIC RESOURCES BY ACADEMIC STAFF

16. How long have you been using these electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

Rarely	Less Than One Year	One Year	Two Years	More Than Two Years
(1)	(2)	(3)	(4)	(5)

17. How frequently do you use these electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Rarely	Monthly	Once Weekly	Twice Weekly	Daily
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..…

18. How often do you make use of the electronic resources for the following purposes?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Never	Rarely	Occasionally	Often	Most Often
		(1)	(2)	(3)	(4)	(5)
1	For Publications					
2	For Preparation Of Workshop/Seminar Paper					
3	For Writing Of Thesis/Dissertation					
4	For Writing Term Paper And Coursework Assignment					

5	For Further Studying On Subject Of Interest					
6	For Information Retrieval					
7	For Recreation					
8	Others Specify					

Any other, please specify ……..…

19. Which of the following best describes your extent of agreement regarding the motivating factors for your usage of electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Ease Of Use					
2	Up To Date Information					
3	Speed Of Information					
4	Ability To Download Fulltext					
5	Availability Of Relevant Information					
6	For Information Retrieval					
7	For Recreation					
8	For Research Work					
9	Others Specify					

Any other, please specify ……..…

20. I am currently not using library electronic resources because:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)

1	I do not know where to find them					
2	I do not know how to use them					
3	I do not find them useful					
4	I do not have interest in them					
5	I do not know they exist					
6	Others Specify					

Any other, please explain ……..

21. I learned how to use electronic resources through:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Self Study					
2	Friends and Colleagues					
3	New Intake Orientation Programme					
4	Seminars					
5	Workshops					
6	Library Handbook					
7	Online Library Tours					
8	Information Literacy Course					
9	Library Week					
10	Others Specify					

Any other, please specify ……..

SECTION E: THE PERCEPTIONS AND ATTITUDE OF ACADEMIC STAFF TOWARD LIBRARY ELECTRONIC RESOURCES

22. How important do you think are the electronic resources for your research work/study?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Unimportant	Somewhat Important	Important	Very Important	Extremely Important
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

23. Which features of electronic resources do you consider to be the most important for your research/study?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Unimportant	Somewhat Important	Important	Very Important	Extremely Important
		(1)	(2)	(3)	(4)	(5)
1	Access To Current/Up-To-Date Information					
2	Ability To Download Fulltext					
3	Quick Information Retrieval					

4	Availability Of Relevant Information					
5	Improves Quality Of Research Work/Study					
6	Increases Quantity Of Research Work/Study					
7	Access To Wider Range Of Information					
8	Others Specify					

Any other, please specify ……..

24. Do you agree with the following statements?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(5)	(4)	(3)	(2)	(1)
1	What I Find From Electronic Resources Is Not What I Need					
2	There Are Too Many Electronic Resources					
3	Electronic Resources Are Not Updated					
4	It Takes Too Much Time To Find Relevant Electronic Resources					
5	Electronic Resources Are Not Always Accessible					
6	Others Specify					

Any other, please specify ……..

25. How satisfied are you with the library electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Very Dissatisfied	Dissatisfied	Undecided	Satisfied	Very Satisfied
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

26. What is your general evaluation of the library electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Not at all Useful	Not Useful	Not Sure	Useful	Very Useful
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					

7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……..

27. I prefer:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	5)
1	Electronic Resources in carrying out my research work/study					
2	Print Resources in carrying out my research work/study					
3	Both					
4	None					

SECTION F: THE DIFFICULTIES ENCOUNTERED BY ACADEMIC STAFF WHILE ACCESSING AND USING LIBRARY ELECTRONIC RESOURCES

28. What are the main problems you face when accessing electronic resources?

Please select as many options as they apply to you.

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	5)

1	Electronic resources is not remotely accessible					
2	Electricity outage					
3	Low internet connectivity speed					
4	Lack of internet access in the library					
5	Cost of access to the internet is high					
6	Slow download speed					
7	Lack of online search skills					
8	Lack of knowledge about advanced searching techniques					
9	Difficulty in finding relevant information					
10	Difficulty in reading from the monitor					
11	Lack of training or orientations on the use of library electronic resources					
12	Lack of knowledge about email alert and RSS services					
13	Inadequate awareness of the availability of electronic resources					
14	Limited access to library electronic resources					
15	Insufficient computers in the library					

16	Shortage of librarians to assist in the use of library electronic resources					
17	Limited library hours to use electronic resources					
18	Too much information is retrieved when a search is initiated					
19	Insufficient time to access electronic resources due to work overload					
20	Others Specify					

Any other, please specify ……..

SECTION G: THE POLICIES AND INFRASTRUCTURE THAT ENABLE THE USE OF ELECTRONIC RESOURCES

29. The University Library can combat the issue of insufficient funds by:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Requesting The University Management To Increase Library Budget					
2	Soliciting For Donations From Faculty And Students					
3	Soliciting For Donations From Alumni Of The University					
4	Reducing Printed Resources Aquisition					
5	Reducing Electronic Resources Acquisition					

6	Engaging in Joint Acquisition with other Libraries					
7	Introducing Fee-Based Library services					
8	Others Specify					

Any other, please specify ……..

30. The Library role is to assist educational and research activities by:
Please select the appropriate options below by ticking (√) in the spaces provide

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Organizing Information Literacy Programme For Library Users					
2	Subscribing To Electronic Resource Relevant To Users' Need					
3	Embarking On Yearly Orientation Programme For New Library Users					
4	Organizing Quality Library Staff Development Programme					
5	Forming Consortiums To Reduce Cost Of Electronic Resources Subscriptions					
6	Employing IT Skilled Library Staff					
7	Creating Feedback Mechanisms To Track Users					

	Complaints And Profer Solutions					
8	Developing Electronic Resources Collections Development Policy					
9	Regularly Investing In New Technologies And Maintaining Library Infrastructures					
10	Embarking On Long-Term Access To Electronic Resources					
11	Others Specify					

Any other, please specify …….

Appendix Four: Questionnaire (Academic Librarian)

SECTION A: PERSONAL DETAILS

1. Department……..……..……
2. Academic Qualification

   PhD ☐ Masters ☐ Bachelor Degree ☐
3. Your age range

   < 24 years ☐ 25-29 years ☐ 30-34 years ☐

   35-39 years ☐ 40-44 years ☐ 45-49 years ☐ > 50 years ☐
4. Your gender

   Female ☐ Male ☐

SECTION B: TYPES OF ELECTRONIC RESOURCES PROVIDED AT THE NOUN

5. The following types of electronic resources are available in the library:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify …….……..……..…

SECTION C: USERS' AWARENESS OF ELECTRONIC RESOURCES PROVIDED BY THE LIBRARY

6. The Library use the following tools to create awareness on electronic resources:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Flyers					
2	Notice Boards					
3	Electronic Mail					
4	Twitter					
5	Facebook					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Library handout					
10	Others Specify					

Any other, please specify …….…

7. Do you agree that modern tools (such as facebook, twitter, email, etc) are effective means of creating electronic resources awareness in the library

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Facebook					

2	Twitter					
3	Flicker					
4	Blogs					
5	Email					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Myspace					
10	Ning					
11	YouTube					
12	Others Specify					

Any other, please specify ……..……

SECTION D: HOW USERS ACCESS ELECTRONIC RESOURCES

8. Library users have access to the following electronic resources that are available in a university library:

Please indicate by ticking (√) in the spaces provided, the electronic resources users can access in NOUN libraries.

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					
6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					

9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify ……

9. The Library provides the following level of access:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Full Text					
2	Abstract Only					
3	Bibliographic (Title, Author, Place, Year) Information					

10. Library electronic resources can be accessed through:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Personal Computer					
2	Mobile Phone					
3	Tablet					
4	Center Library Computer					
5	Others Specify					

Any other, please specify ……..……..…

11. Library users have access to electronic resources from the following venues:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	At Home					
2	At Work					
3	Center Library					
4	At Café					
5	Others Specify					

Any other, please specify ……..……..…

SECTION E: USE OF ELECTRONIC RESOURCES BY LIBRARY USERS

12. Which of the following best describes your extent of agreement regarding the motivating factors for library users usage of electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Ease Of Use					
2	Up To Date Information					
3	Speed Of Information					
4	Ability To Download Fulltext					
5	Availability Of Relevant Information					
6	For Information Retrieval					
7	For Recreation					
8	For Research Work					
9	Others Specify					

Any other, please specify ……..……..…

13. Library organises electronic resources training for users through:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	New Intake Orientation Programme					
2	Seminars					
3	Workshops					
4	Library Handbook					
5	Online Library Tours					
6	Information Literacy Course					
7	Library Week					
8	Others Specify					

Any other, please specify ……

SECTION F: THE PERCEPTIONS AND ATTITUDE OF ACADEMIC LIBRARIAN TOWARD LIBRARY ELECTRONIC RESOURCES

14. What is your general evaluation of the library electronic resources?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Not at all Useful	Not Useful	Not Sure	Useful	Very Useful
		(1)	(2)	(3)	(4)	(5)
1	Electronic Journal					
2	Electronic Book					
3	Electronic Thesis/Dissertation					
4	Institutional Repositories					
5	Electronic Newspaper					

6	Electronic Magazine					
7	Electronic Archives					
8	Electronic Dictionary					
9	Indexing and Abstracting Databases					
10	CD Databases					
11	Others Specify					

Any other, please specify …….

SECTION G: THE DIFFICULTIES ENCOUNTERED BY THE LIBRARY WHILE PROVIDING ACCESS TO ELECTRONIC RESOURCES

15. The main problems encountered when accessing electronic resources include:

Please select by ticking (√) as many options as they apply to you.

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Electricity Outage					
2	High Cost Of Providing Alternative Power Supply					
3	Low Internet Connectivity Speed					
4	Lack Of Internet Access In The Library					
5	Cost Of Access To the Internet Is High					
6	Slow Download Speed					
7	Inadequate Awareness On The Availability Of Electronic Resources					

8	Insufficient Computers In The Library					
9	Limited User Licence					
10	Others Specify					

Any other, please specify …….

SECTION H: THE POLICIES AND INFRASTRUCTURE THAT ENABLE THE USE OF ELECTRONIC RESOURCES

16. The University Library can combat the issue of insufficient funds by:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Requesting The University Management To Increase Library Budget					
2	Soliciting For Donations From Faculty And Students					
3	Soliciting For Donations From Alumni Of The University					
4	Reducing Printed Resources Aquisition					
5	Reducing Electronic Resources Acquisition					
6	Engaging in Joint Acquision with other Libraries					
7	Inttroducing Fee-Based Library services					
8	Others Specify					

Any other, please specify …….

17. The Library role is to assist educational and research activities by:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Organizing Information Literacy Programme For Library Users					
2	Subscribing To Electronic Resource Relevant To Users' Need					
3	Embarking On Yearly Orientation Programme For New Library Users					
4	Organizing Quality Library Staff Development Programme					
5	Forming Consortiums To Reduce Cost Of Electronic Resources Subscriptions					
6	Employing IT Skilled Library Staff					
7	Creating Feedback Mechanisms To Track Users Complaints And Profer Solutions					
8	Developing Electronic Resources Collections Development Policy					
9	Regularly Investing In New Technologies And Maintaining Library Infrastructures					
10	Embarking On Long-Term Access To Electronic Resources					

11	Others Specify					

Any other, please specify …….

Appendix Five: Letter to the University Librarian

Oluwaseun Babarotimi Opeyemi

Systems Librarian

NOUN, Lagos

12th September 2016

The University Librarian,

National Open University of Nigerian

14/16 Ahmadu Bello way,

Victoria Island, Lagos

Dear Sir,

PERMISSION TO CONDUCT A RESEARCH ON ACCESS TO AND USE OF LIBRARY ELECTRONIC RESOURCES IN NOUN LIBRARY

I am currently a postgraduate student in the University of South Africa (UNISA), where I am pursuing a Masters degree in Information Science. My research topic is Access to and Use of Library Electronic Resources at The National Open University of Nigeria (NOUN).

I wish to request your permission to conduct this research using 14 different center libraries within the six-geopolitical zone of Nigeria.

I will be grateful if my request is given a favourable consideration.

Thank you.

Yours faithfully,

Oluwaseun Babarotimi Opeyemi

Appendix Six: Approval for Ethical Clearance

NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS.

FROM: UNIVERSITY LIBRARIAN	**TO: MR. OLUWASEUN BABAROTIMI OPEYEMI** **DATE: SEPTEMBER 22, 2016**

SUBJECT: REQUEST FOR PERMISSON TO CONDUCT A RESEARCH ON ACCESS TO AND USE OF LIBRARY ELECTRONIC RESOURCES IN NOUN LIBRARY

Your letter dated 12th September 2016 on the above stated subject matter has been considered. You have the approval of the university librarian to carry out your research within your chosen research locations.

You are assured of the full support of all the library staffs in these research locations.

Thank you.

Wosilatu Ainodion (Mrs.)
Principal Assistant Registrar
For: University Librarian